

## DOCTORAL THESIS

### **The empathy fillip: Can training in microexpressions of emotion enhance empathic accuracy?**

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# **The empathy fillip: Can training in microexpressions of emotion enhance empathic accuracy?**

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## **Abstract**

*Empathy is a central concern in the counselling process. Though much researched, and broadly commented upon, empathy is still largely understood through the words within a client-counsellor interaction. This semantic focus continues despite converging lines of evidence that suggest other elements of an interaction – for example body language – may be involved in the communication of empathy. In this thesis, the foundations of empathy are examined, focusing on empathy's professional instantiation. These foundations are then related to the idea that the face, and its ability to express emotion, are an important part of the empathic process. What follows is an experiment testing 60 participants. This was a between groups design, with participants assigned to two even groups; one group receiving training in how emotion appears on the face: using the training program eMETT; the other reading a passage on empathy. Following the intervention, hypothesised group differences were assessed using the following analyses. Firstly, an Independent sample T-test, compared group means on the Ickes Empathic Accuracy paradigm, the measure of empathy used. Secondly, a further Independent sample T-test assessed the effect of eMETT training. Thirdly, an ANCOVA, evaluated whether the obtained results may have been confounded by age difference between the experimental groups. Finally a correlational analyse tested for any relationship between baseline and outcome measures. The hypothesis tested stated: training in facial expressions of emotion will enhance counsellors' empathic accuracy; a hypothesis for which positive evidence was shown. The implications of this evidence suggest efficacy of the eMETT training to enhance empathic accuracy, though this is qualified through critical examination of the experimental method. Suggestions for refinement of this method are discussed.*

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## Introduction

### *What motivated this research?*

I remember the first thing I ever read about psychology. It was a book that in academic circles might be considered a little lightweight, but to my 15-year-old mind it was something of a revelation. The book "Body language: How to read others thoughts by their gestures "(Pease, 1981) certainly has a title that now seems if not spurious, then certainly questionable. If psychological science has "proved" anything over the last 150 years, it is that the content of others' minds is on many levels, unknowable. Nonetheless, Alan Pease's book (1981) started both my interest in non-verbal communication, and psychology. Skip forward 20 years, and when asked by our supervisors to begin thinking about our research direction, I already knew that I wanted to study expressive behaviour.

There was however, another pull in the direction of non-verbal communication. As part of my interest in non-verbal behaviour I had bought myself an online training package: Paul Ekman's Micro Expression Training Tool<sup>1</sup> (eMETT); a training I was doing about once a month in the first year of the PsychD. During the summer of my first academic year (2012/3) I had a client called Nancy<sup>2</sup> who I was working with in a charity in southwest London. I distinctly remember an early assessment session in which Nancy and I discussed her family relationships. As part of this discussion I asked her: "And what about your dad, what do you think about him?" At the mention of her

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<sup>1</sup> <https://www.paulekman.com/products/>

<sup>2</sup> Pseudonym



father, a distinct look of disgust crossed Nancy's face, her words though did not match this look; she replied simply: "He's alright".

Navarro and Karlins (2008) argue non-verbal communication should be interpreted in clusters and in context, not simply as single expressions or gesture. Therefore, whilst a single flash of disgust is far from conclusive, further flashes of disgust at the mention of Nancy's father became something of an empathic tell for me: it seemed probable that Nancy thought more about her father than "He's alright". It is practically axiomatic that when a client is vague about a topic there is almost certainly more to it, but a flash of disgust pointed that the "more to it", was perhaps quite extreme, and might influence the direction of our work. Nancy's revelation some sessions later that her father had been violent to her and her mother – presaged as it was by her brief expression – was less shocking and more easily contained than it might otherwise have been. Equally, I knew from the outset of my work with Nancy – by noticing this non-verbal cue – that our work might get into some traumatic territory, giving me time before her revelation to ground myself and discuss options in supervision.

The portent of Nancy's expression was the beginning of my noticing similar experiences where facial expression either enhanced, or nuanced, my understanding of clients. I came to question how facial communication was helping me understand clients, and decided that I would like to research specifically: how had eMETT enhanced – or given a fillip to – my understanding of clients. It was this question that motivated my research.

*Why do I believe this topic is important?*

The first year of the PsychD had been dominated by Person Centred practice and study; the second was to be focused on the psychodynamic theory. The practice – or practical texts – I had read on the Person Centred school, and the books I was then reading on the psychodynamic approach, had made various references to “body language” (Cooper, O'Hara, Schmid, & Wyatt, 2007) ; “non-verbal behaviour” (Howe, Brandon, Hinings, & Schofield, 1999); and “non-verbal communication” (Lemma, 2003). Each of these texts saw such behavioural expression of emotion as an important part of the therapeutic process; indeed, The Trainee Handbook (Bor & Watts, 2011) is quite clear that observations of such are relevant to the writing of process reports. Bearing in mind then, that expressive behaviour is an important part of the therapy process, how much instruction were we as trainees given in it? None. This was the case across PsychD courses in the UK<sup>3</sup>.

Clearly it is not just non-verbal communication that is important to this study, empathy is central too. Empathy is important to me personally, because I draw much of my model of practice from the Person Centred School and Self psychology; both approaches that see empathy as critical to the psychotherapy process. But empathy is of professional importance not just for solipsistic reasons, as pointed out by the findings in “Psychotherapy Relationships that Work” (Norcross & Lambert, 2009). This edited book compiled the findings of “the best available research and clinical practices on numerous elements of the therapy relationship” (Norcross, 2009). This review recommends “the creation and cultivation of a therapy relationship characterised by

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<sup>3</sup> Web search of all PsychD course sites and modules listed carried out May 2014.

the elements found to be demonstrably... effective, a primary aim in the treatment of patients.” (Norcross & Wampold, 2009). Within the category “Demonstrably” effective, is empathy, one of only four demonstrably effective elements of psychotherapy relationships (Norcross & Wampold, 2009).

The effectiveness of empathy within psychotherapy relationships is perhaps why there is plenty of relational theory stressing the importance of the felt sense of the relationship (Cooper, O'Hara, Schmid, & Wyatt, 2007). “What” this sense is, has been described as empathy (Rogers, 1956), vicarious introspection (Goldberg, 2011), or countertransference (Steiner, 1994): all processes requiring some window into the other. However, counselling psychology has tended to favour the “what?” question, whilst eschewing the “How?” question. There is therefore little indication of exactly how the window into the other worked. Indeed, with empathy – and other interpersonal processes – authors often seem to account for the phenomenon with “almost magical or telepathic processes between patient and analyst” (Gallese, Eagle, & Migone, 2007, p. 150). When reading of empathy and interpersonal processes, one could easily develop the impression that analysts possessed “extrasensory perception” (Buie, 1981, p. 283). Personally, I felt somewhat lost in an ethereal process, surrounded by nebulous language.

Having done my undergraduate dissertation on empathy for pain, I had studied a more realist and quantitative – mainly neuroscientific – view of empathy. In this literature there was a theoretical framework for understanding how empathy arose, and more interestingly for someone with my motivation, a putative link between empathy and non-verbal communication. Thus literature that perhaps traditionally sat

outside the purview of counselling, was offering a potential understanding of “how” empathy worked. This understanding both matched my motivation, and offered an opportunity to clarify a process so central to counselling.

My research then is important to the field for two reasons. Firstly it may shed some light on how empathy is generated, making empathy less “magical” (Gallese et al., 2007) and less amorphous. Moreover, far from being a reductive or mechanistic endeavour, by integrating into the field a set of literature that has hitherto remained somewhat ignored, I hope to show that empathy may be subject to enhancement through training; allowing counsellors a route to better client care and stronger client relationships.

#### *Why an experiment?*

Through my experience with Nancy – and others – I came to understand that I “tuned” my empathy using a blend of prosody, facial expression, and speech content (see Regenbogen, et al., 2012 for discussion of this). The doctorate I was doing seemed only to focus – explicitly anyway – on prosody and speech content. I had, I felt, found a gap in both course content and literature that I might begin to explore. Riess et al. (2012) had used some facial expressions to train doctors and other medical staff to enhance empathy, a practical application of the third – facial – channel. However, the population studied in Riess et al. (2012) has also been suggested to have lowered empathic ability (Hojat et al., 2009; Newton et al., 2008). Would similar training be as effective in counsellors, a more empathically able group (Hassenstab, Dziobek, Rogers, Wolf, & Convit, 2007)? My study would look at whether such training can enhance

empathy in psychotherapy professionals and trainees, but I wanted to do this in a controlled and replicable way.

Bearing in mind the more phenomenological aspect of the doctorate, and indeed my will to embrace a more relational stance to subjectivity, it is clearly important to question my methodology. An experiment is the apotheosis of the quantitative tradition, and in many ways anathema to those interested in qualia. However, an experiment was also the best way to match my motivation with the more quantitative literature; and were this experiment able to test subjective experience against objective knowledge, it can be seen as phenomenologically sound. This is what I seek to do below.

## Literature Review

In tracing the history of empathy, I began with literature from both the person centred school – for example Rogers (1975) – and literature from the neuroscientific tradition examining empathy for pain; for example Master et al. (2009). Tracing references from these sources and deepening my understanding of empathy, I also broadened it through searches of the Web of Science, Scopus, and Pubmed. I searched for the key words “empathy”; “empathy facial expressions”; “empathy training”; “teaching empathy” and “empathic accuracy”. These searches revealed a vast literature, but in reality much of this literature was irrelevant, at least in part because the empathy literature is both varied and multifaceted.

Serendipitously, a review of how facial expressions were being used in empathy research was published early in 2015 (Regenbogen & Habel, 2015), this confirmed what my literature search had suggested: that whilst growing in size, the literature on empathy and facial expressions was still limited. More pertinently, there were no previously recorded instances of the use of facial expression training to enhance empathy anywhere in the psychological literature (Regenbogen & Habel, 2015).

Much modern writing about empathy – especially the more realist postivistic literature – is concerned with what might be called innate human empathy (e.g. Blair, 2005; Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; Lamm, Batson, & Decety, 2007). This is the near universal human capacity to infer the emotions of others; empathy is commonplace, quotidian, and basic; a capacity that only some humans may lack (Baron-Cohen & Wheelwright, 2004). This innate capacity to empathise has been “professionalised”, at least by the therapeutic arm of the psychological community,

and there are a number of theories on the professional use of empathy. However, these theories are almost entirely separate fields of theoretical knowledge and application. These knowledge territories are based on quite disparate definitions of empathy, somewhat divorced from the ordinary human capacity to empathise.

Empathy can therefore be seen as split in two, becoming empathy in a professional context, and empathy in the wider human context. Whilst ostensibly these “empathys” are exactly the same thing, professional empathy uses the innate human empathic tendency in a different manner. As an aspiring member of the therapeutic community – a counselling psychologist in training – it is pertinent perhaps to ask: a) what is empathy? and b) how can one understand, definitionally underpin, and disentangle, professional and innate empathy? It is worth noting at this point that the only major point of agreement in the empathy literature I reviewed, was that there is no agreed definition of empathy (Decety & Jackson, 2006; Duan & Hill, 1996; Elliott, Bohart, Watson, & Greenberg, 2011; Levenson & Ruef, 1992; Preston & De Waal, 2002).

Below, the literature on innate – hereafter personal – empathy, will be reviewed. This review will synthesise, and extract commonalities in, empathy definitions; it will then use this definitional coalescence as a foundation for clarifying what is distinct in the professional use of empathy. This clarity will also bring an integration and thereby, I hope, create something of a rapprochement between both levels of explanation and realms of research. Once the review of empathy and its professional application is complete, this will be related to the relevant literature on facial expressions of emotion, which is the second research focus of this thesis. These

two foci provide a rationale for how eMETT might help counselling professionals in their empathic endeavours, creating a training hypothesis: the empathy fillip.

### *Historical Semantics*

Etymologically speaking, empathy is a relative newcomer to the English language, having only been introduced to English as a translation from the German word – *Einfühlung* – by Titchener in 1909 (Preston & De Waal, 2002). Empathy was originally a term used in aesthetics, describing the idea that aesthetic works might demonstrate an “inner mental or spiritual reality” (Stuber, 2006, p. 6). Moreover, empathy expressed the idea that one might appraise a given object by projection of the bodily self into the thing being appraised (Jahoda, 2005). In this early use of the word, there is nascent an idea that empathy is a capacity to feel something through projection of self; the modern conception of empathy then limits this projection to working of the minds of others (De Waal, 2008).

Much of what one might define as empathy today, was formerly subsumed under the term “sympathy” (Jahoda, 2005). Sympathy was a wider term, which, whilst it carried the idea of affective sharing between people, was also used to designate affiliation between entities. In terms of entities, sympathy denoted – amongst other things – what drug to use to combat what ailment, and the spreading of disease. There were others who used the term empathy in a more psychological sense, beginning to bifurcate the meanings of sympathy and empathy (Stuber, 2006); however, it was Theodor Lipps who did most to carve out the semantic territory of empathy (Jahoda, 2005). Lipps saw empathy as the decisive element in how humans “come to know



other people's minds" (Jahoda, 2005, p. 155), and was first to associate this with "inner imitation" (Stuber, 2006, p. 8)

Whilst inner imitation is a piece of terminology that is recognisable as a precursor to the modern conception of empathy, Lipps would also often use the terms empathy, and sympathy, without making a clear distinction in their meaning. Indeed, far from differentiation, "sympathetic empathy" (Jahoda, 2005) was part of Lipps' lexicon when referring to this concept. It was Edith Stein's "On the Problem of Empathy" (1917/1986) that developed the concept of empathy more fully in its own right (Stuber, 2006). Stein (1917/1986) – whilst acknowledging some similarity of definition with Lipps – makes it clear that her definition is distinct from that of Lipps, and does not associate empathy with sympathy. So whilst Lipps was perhaps the father of empathy, Stein nurtured the concept, allowing it to semantically stand alone.

### *Developing Definition*

Much of psychotherapy that came before Carl Rogers either ignored empathy, or sought to expunge it in some way from the professional setting. By contrast, Rogers saw empathy as a necessary and sufficient condition for therapeutic change (Rogers, 1956). Rogers conceived of empathy as entering "fully into the world of his [the client's] feelings and personal meanings and see these as he does" (Rogers, 1961, p. 53); doing this "as if it were your own, but without ever losing the 'as if' quality" (Rogers, 1956, p. 4). In later work Rogers was keen to point out that empathy is a "process, rather than a state" (1975, p. 2); he makes the point empathy is a "complex demanding... way of being" (1975, p. 3). A further division Rogers makes here is that of

“feelings” and “personal meanings”, one which developing conceptions of empathy have made much of. This division is a precursor to the dichotomy between cognitive and affective empathy, a feature of modern conceptions of empathy (Batson, 2009; Blair, 2005; Reniers, Corcoran, Drake, Shryane, & Vollm, 2011).

The work of Heinz Kohut, as both a pioneer in the psychodynamic understanding of empathy, and a practitioner who put empathy central in his work, also bears review. Unlike Rogers, Kohut did not see empathy as a sufficient condition in therapy, but did see it as a necessary one (Kohut, 1959). Kohut construed empathy as “vicarious introspection” (Kohut, 1984), and like Rogers saw it as an individual’s coming to “experience the inner life of another whilst simultaneously retaining the stance of an objective observer” (Kohut, 1984, p. 175). Kohut splits empathy into two “levels”, with the second level having two speeds. Empathy is therefore either a “powerful emotional bond” or an “information gathering activity”, the latter being either the fast “intuitive” empathy, or the more slow — “and ploddingly” — pursued empathy (Kohut, 1982, p. 396). Here again, we see forerunners for the ideas of cognitive and affective empathy in fast and slow empathic processes. Similar to Rogers’ (1975) idea of complex empathy, we see a notion that empathy is both a natural bond, and something used therapeutically. This distinction – between professional, information gathering empathy, and more personal, or layman emotional bond empathy – is one that is of critical importance in the current study.

### *Meaning Divisions*

Although the definitions offered by Kohut (1959) and Rogers (1956) are on some level straightforward, they are certainly open to the criticism that they are oversimplified, and insufficiently incisive. Whilst this leaves both the professional and the scholar plenty of room for interpretation, it can also leave one feeling a little lost. These definitions give us little clue as to how empathy works, something that is vital for those trying to enhance their empathic skills, and important for those seeking a slightly deeper understanding of empathy. At the other end of the spectrum Batson (2009), identifies eight different “things” (Batson D. , 2009, p. 3) he calls empathy. He also makes the point that empathy has been used to try to account for two different phenomena. The first is how can humans know what others are thinking and feeling. The second is what leads humans to respond to the suffering of others.

Batson (2009) not only separates empathy’s emotional bonding capacity – like Kohut (1982) – he also alludes to his long running intellectual skirmish over whether empathy is a pro-social drive (Batson, et al., 1991) or a more selfishly motivated driver (Smith, Keating, & Stotland, 1989). Putting such evolutionary considerations aside for a moment, consideration of Batson’s (2009) eight things is a good starting point from which to narrow down the definition of empathy; they are as follows:

1. Recognising the emotions and cognitions of the other.
2. Assuming the pose or matching the neural responses of another.
3. Feeling the same way as another.
4. Self-projection into the state or thoughts of another, including aesthetic projection.

5. Imagining the thoughts and emotions of the other.
6. Imagining yourself in the situation of the other, and the resultant thoughts and feelings elicited.
7. Personal distress felt when witnessing another's suffering.
8. Feeling for another person who is suffering – sympathy.

The above points are certainly a comprehensive list, which, whilst conflating a number of concepts, makes the point that empathy scholars are “a cantankerous lot” (Batson D. , 2009, p. 3).

To begin to narrow the focus, the argument can be made that Point 1, whilst a necessary developmental precursor to empathy (Hoffman, 1975), can be removed from the list: recognition without any involvement doesn't seem to qualify as empathy, but is rather emotional perception. Similarly, Point 6 seems to describe perspective taking, but as De Waal points out, perspective taking “by itself is, of course, hardly empathy” it can only be empathy “in combination with emotional engagement” (De Waal, 2008, p. 285). Points 7 and 8 are arguably the same thing, and here Batson (2009) seems almost to be making the same definitional conflation that Lipps made 100 years earlier (Jahoda, 2005). Point 4 looks back to empathy's nascent semantics, and is more of an ontogenic by-product, than a central component of empathy. Batson's (2009) eight things do clarify one thing: it is important to delimit this term. This review will do so by focusing on a definition of empathy that clarifies Points 3, 5 and 6.

### *Finding Focus*

In narrowing down the term empathy, it will be useful to start with a framework within which our definition can reside. One such framework is the Perception-Action Model of empathy (PAM) (Preston & De Waal, 2002); of particular relevance here because of its ability to unite the levels of explanation, from proximate to ultimate, or to use the terminology from the Introduction: from “how” to “what”. The PAM is also sufficiently broad to allow any number of definitions of empathy to be structured, whilst also specifying the necessary and sufficient parts of a definition of empathy. It is because of the PAM’s generalist capacity, combined with sufficient specificity, that it will be used as the framework for the following discussion.

Preston and De Waal (2002) make an evolutionary argument that empathy evolved out of the human neural system’s organisation. From a natural selection perspective, an organism’s nervous system must react to the environment in ways that generate adaptive responses to survive. If such a system arises, these adaptive responses will reduce the likelihood that the organism will be consigned to the fossil record. Preston and De Waal (2002) suggest the perception-action coupling is a model that can account for much of what in humans is called altruistic behaviour, describing a set of adaptive responses that has enabled man to survive and thrive as a species (Batson, et al., 1991; Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; De Waal, 2008; Smith, Keating, & Stotland, 1989). For this behaviour to have arisen, a proximate cause is required for the ultimately adaptive responses. Preston and De Wall hypothesise empathy is the “main proximate mechanism for directed altruism” (De Waal, 2008, p. 282).

In order for altruistic acts to be elicited, the subject must feel connected to the object, sensing that in some way “they are like me, and I feel their pain”. This requires emotional contagion, the phylogenetically basic mechanism by which species members can become connected to other members. Emotional contagion manifests itself through the subjects’ feelings of alarm, fear, or pain, elicited by the alarm, fear, or pain, of another. This capacity connects species members into groups capable of feeling as another member feels (Xu, Zuo, Wang, & Han, 2009). At the neural level, such a connection relies on perception and action being coded in the brain using a single “representation”. This means perceiving the actions of another generates a representation at the perceptual level, and automatically generates a motor representation of this action (Preston & De Waal, 2002). This motor representation not only primes and controls behaviour, but elicits in the brain both cognitive and emotional responses.

Through perception-action coupling, conspecifics can be alerted to potential hazards to their offspring, and themselves. This generates adaptive behaviour: parents are affected by the plight of their children through representation linkage, and will therefore tend to better ensure their survival. In the wider group context, emotional contagion may lead – as in humans – to the emergence of sympathetic concern. This is phylogenetically more advanced and enabled an adaptive advantage to the species. Sympathetic concern gave rise to group bonding, manifested at a neural level as group members’ mutual shared representations of certain perceptual cues. Group representations allowed the rapid transmission of emotional information (Eisenberger, Lieberman, & Williams, 2003), an example might be the shared representation of pain.

Group members are affected by the pain – both social and physical – of other members (Master, et al., 2009; Xu, Zuo, Wang, & Han, 2009), they share a representation of pain. By seeking to alleviate shared pain, group members come to each other's aid; enhancing the advantages of being in a group through reciprocal altruistic acts, a factor that would enhance inclusive fitness.

The final level of PAM is that of perspective taking, that facet of empathy which connects it to higher cognitive function through the individuals' capacity to hold shared representations in mind, thereby experiencing the world from the perspective of the other. This ability requires a strong sense of identity so that the subject can maintain the self-other distinction whilst considering the other (Preston & De Waal, 2002). Such a distinction is again phylogenetically and developmentally (Harris & Butterworth, 2002) advanced, and confers the advantage of greater social regulation and group cohesion, both likely to enhance survival through the ensuing cooperation and collective effort (Decety & Jackson, 2003).

From the above we can see that PAM not only situates definitional divisions in the wider epistemological context, it provides shape for any model of empathy. PAM stipulates that emotional contagion underlies any empathic ability, thus any definition of empathy should contain emotional contagion, or an analogous system. Any definition of empathy should also contain sympathetic concern, or an idea that empathy involves shared meaning, or will be effected by such meaning. Finally, PAM argues that any definition of empathy include an idea of perspective taking, and self-identity.

Applying PAM we can use the hierarchy it sets out to help shape our understanding of any model of empathy. Blair (2005) – on the basis of the study of “psychiatric populations” – outlines a triumvirate of empathic elements. Blair’s three empathic elements are: cognitive empathy; motor empathy, similar to Batson’s (2009) point 2 and almost identical to emotional contagion; and emotional empathy. Cognitive empathy consists of understanding the feelings of others through the “setting aside one’s current perspective, attributing a mental state (or “attitude”) to the other person” (Baron-Cohen & Wheelwright, 2004, p. 164). Blair equates cognitive empathy with theory of mind (TOM), a conceptual overlap that is not unique to Blair (2009): Gonzalez-Liecras, Shamay-Tsoory, and Brun (2013) make the same conflation. TOM, mentalising, or mind reading, are the names given to the set of abilities which allow humans to “naturally explain people’s behaviour on the basis of their minds: their knowledge, their beliefs and their desires” (Frith & Frith; 2005, p. 644). These definitions are extremely close and we can perhaps see why Blair (2009) conflates the two; however, TOM seems to be a more encompassing concept than cognitive empathy. Taking the perspective of another, which may have also been termed “self-projection” (Waytz & Mitchell, 2011), is a somewhat narrower, and more immediate mental action than explaining the behaviour of others as minded individuals. This latter idea seems to be more akin, or at least to draw more heavily upon, folk psychology. Folk psychology is the combined knowledge of humans and society that allows the layman to understand others (Stuber, 2006) – synonymous with the shared representations of PAM. This review will use the idea of cognitive empathy as a self-projection or perspective taking process, rather than a more global TOM process.



Emotional empathy (Blair, 2005), or affective empathy (Baron-Cohen & Wheelwright, 2004), are based on the idea that there is some level of emotion state-matching; sympathetic concern. Baron-Cohen and Wheelwright (2004) delimit four possibilities here:

1. The feeling in empathiser needs to match that of the object; i.e. sad object feeling sadness = sad empathizer.
2. Feeling in the empathiser is merely “appropriate” (p. 164) to the objects emotion. E.g. object feeling fear = empathizer feels concern.
3. Empathisers feeling can be any feeling elicited, for example amusement at another’s pain.
4. Concern for the negative feelings of another.

Baron-Cohen and Wheelwright (2004) make the point that “appropriate” is a difficult part of any definition as it is hard to know exactly what it implies. They use the example of hearing about the death of a friend. This may make you feel both happy that their suffering is over and sad about their death. Which is appropriate? Going further, they point out that the sadness of the individual may be an egocentric feeling, rather than empathy: their sadness maybe about personal loss, rather than the death of the friend *per se*. Adding to their example, it would seem that if someone else is conveying news of the friend’s death, and the empathiser’s state matches the messenger’s, this is emotional empathy, but not for the loss of the friend. Whereas Baron-Cohen and Wheelwright (2004) argue that from their list points 1, 2, and 4 are relevant to emotional empathy, point 2 seems to define sympathy, as is the case for

point 4 (this latter noted by Baron-Cohen & Wheelwright, 2004); and point 3 defines *schadenfreude* (Porter, Bhanwer, Woodworth, & Black, 2013).

This review will then narrow its definition of emotional empathy to point 1: the feeling the empathiser needs to match that of the object, i.e. sad object will elicit feelings of sadness in the subject.

Moving on to motor empathy Blair (2005), bases his model in the PAM, working from the same basic premise that perception and action are coded in a single representation. Further consideration of this is made below, but motor empathy is another important part of the present definition of empathy. It is important to note at this point – as Baron-Cohen and Wheelwright (2004) do – that cognitive and affective empathy are linked, the unique property of cognitive empathy is that it requires the cognitive act of putting oneself to one side and taking another's perspective. However, how they are linked is not something that is discussed by Baron-Cohen and Wheelwright (2004), and again, will be looked at later.

Thus far the definition of empathy consists of a perspective-taking capacity (cognitive empathy), an emotion-matching capacity (emotional empathy), and motor elements; though this latter, it will be argued later, is subsumed by the empathy element: resonance. Nonetheless, if we apply PAM to these three elements, it allows us to hierarchically organise them. Starting at the bottom of the hierarchy, we place motor empathy – synonymous with emotional contagion in the PAM – underlying the other empathic abilities. Above this, will be emotional empathy, the part of empathy that sympathetic concern will begin to generate, and finally cognitive empathy at the top as it aligns with perspective taking within the PAM.

However, PAM also shows up that Blair's (2009) model lacks an idea that self-identity is important if one is not to get lost in the other; we must therefore look further afield to add this element. For this we turn to another empathy trio, that of emotional simulation, perspective-taking and emotion regulation, suggested by Elliott, Bohart, Watson and Greenberg (2011) (but see also Decety & Jackson, 2006). Elliott et al's ideas (2011) look at empathy from the professional point of view. Although emotion simulation and perspective taking have clear affinity to emotional and cognitive empathy respectively, emotion regulation shifts the definitional frame. Emotion regulation is the ability to regulate personal discomfort or suffering generated by the other—in the jargon of PAM, this would be a strong sense of identity. This regulatory capacity allows the subject to maintain the self-other distinction whilst considering the object, ensuring that the object's pain, fear or otherwise is attributed to them, rather than being misattributed to the self. Elliotts' model reiterates the importance of emotion regulation in the empathic process, a distinction made in PAM, and also by other authors such as Gonzalez-Liecras et al, (2013) and Gallese (2003).

Where this ability to make the self-other distinction is compromised, the results may be quite unpleasant; such is the case in Alexithymia. Alexithymia is a cluster of traits – or a syndrome – indicative of the fact that the individual has little in the way of self-concept (Nemiah, 1996). The alexithymic then has an inability to discern discrete feelings, a lack of fantasy or an internal world and tends to be – perhaps in consequence of the former criteria – somewhat engrossed in the facets of the surrounding environment (Nemiah, 1996). Guttman and Laporte (2002) studied familial alexithymia using the Interpersonal Reactivity Index (IRI), which measures

empathic response. The IRI indicators of interest are those related to perspective taking, empathic concern, and personal distress; the former two measures showing lower scores in alexithymics verses controls, but the latter score was higher for alexithymics. This pattern of results has also been seen in a study of alexithymia and empathy for pain. Moriguchi et al (2007) showed alexithymics varying body parts in painful situations – for example a finger being accidentally sliced with a knife, or a door running over a foot. IRI results for alexithymics again showed lower ability to take another person’s perspective, lower empathic concern, and yet greater personal distress at the pain of another than cognitively normal controls (Moriguchi et al., 2007). The pattern of results in both Guttman and Laporte (2002) and more pertinently Moriguchi et al (2007) are suggestive of an inability to fully dissociate oneself from another; even though empathic and perspective taking abilities are underdeveloped, personal distress at the plight of another is enhanced. Thus, the self-other distinction is critical to the empathic process, and we are therefore dealing with an empathy quartet, rather than an empathy trio.

### *The Empathy Quartet*

Thus far we define empathy as having cognitive and emotional elements, with a need for a self-regulatory process, and motor elements. The motor element will be examined further below, as it is critical to the current argument. The initial trio of empathy elements discussed above – cognitive, emotional, self-regulatory process – can not only be integrated by PAM, but also align closely to those given greatest definitional endorsement in a survey of counsellors, counselling psychologists and clinical psychologists (Carlozzi, Bull, Stein, Ray, & Barnes, 2002). This survey revealed

that the three definitional elements of empathy given highest endorsement by this group of professionals were “vicarious experiencing”, “experiencing the inner life of others whilst retaining objectivity” and “resonating with feelings expressed by others” (Carlozzi et al., 2002, p. 164). In the first two of these elements we can see the three parts of empathy we have focused on above; it is to “resonating with feelings expressed by others” that we now turn.

Resonating is a somewhat indistinct term, both in terms of its morphology and its modus operandi. To clarify this, Clark’s (2010) model of empathy is useful. Clark (2010) builds upon the Rogerian model of empathy; where Rogers (1964) described tripartite ways of knowing, Clark’s model proposes three distinct “knowledge channels”. The first is the subjective empathic channel, the moment-to-moment experience of the other; it is the counsellor’s internal frame of reference and the reactions within this toward the client during dialogue. Part of this process is gaining empathic understanding through short periods of identification, imagination, intuition, and felt-level experiencing. Identification is “kinship (through) a perceived similarity of experiences” (Clark, 2010, p. 349). Intuition for Clark, is use of gut feeling, “a sense” or “felt-level experience”; or more viscerally “bodily felt resonance” (2010, p. 350). Objective empathy is Clark’s (2010) second knowledge channel; understanding of a client is achieved by bringing to bear theoretically based knowledge from sources that must be “reputable reference groups external to a client’s frame of reference” (Clark, 2010, p. 351).

Interpersonal empathy – the last of Clark’s knowledge channels – is the empathic process over time, allowing the accretion of knowledge of the other and the

capacity to recognize “a client’s internal frame of reference and conveying a sense of the private meanings to the person” (2010, p. 350). If we look at these knowledge channels, we can begin to see certain similarities with the model laid out so far. Objective empathy is synonymous in many ways with cognitive empathy; theory is both cognitive in nature, and requires cognizing in its application. Interpersonal empathy is clearly founded in emotional empathy, as time goes by the relationship contains more shared representations: the other becomes more familiar, more understandable, and more easily related to. The subjective channel is again similar to emotional empathy, but it is more than this. Notions of a cognition or a thought are accessible; we can relate to the idea of an emotion; perhaps the idea of emotion regulation is a little less distinct, but a vernacular synonym might be “self-control”. Resonance, though, is a word that could be considered a little “magical”, and this is perhaps where reductionism might help illuminate the matter. This is more than a simply linguistic nicety: more readily understood empathic elements also are easier to experience and prepare for. To understand resonating, the cognitive science and neurosciences’ equivalent of “resonating” – motor empathy – should be examined.

### *Resonation*

Resonation is similar to Barrett-Lennard’s (1993) “Phase 1” (p. 5) of his model of empathy. In this initial phase of empathy the empathizer “resonates experientially” to the object in “an immediacy of recognition of the other’s felt experiencing and meaning” (Barrett-Lennard, 1993, p. 6). From the psychodynamic perspective, when explaining transference and counter transference in the counselling relationship, Krause and Merten (1999) talk of emotion as “the predominant exchange currency of

interaction” (1999, p. 111). This “currency” through which relationships are transacted and understood is essentially the same empathic resonating that Rogers (1964), Barrett-Lennard’s (1993) and Clark (2010) rely on in their models.

Resonation can be elucidated by returning briefly to the PAM. This model states that when the subject perceives the object’s emotional state, the subject’s neural representations of comparable states are activated – “automatically... unless inhibited” (Preston & De Waal, 2002, p. 4). This word – “automatically” — is one around which there is a great deal of confusion (Corradini & Antonetti, 2013). As Corradini and Antonetti (2013) point out, in much of the existing literature it is unclear what “automatic” actually means. Their critique ranges across a number of writers; Iacoboni (2009) uses the word “pre-reflective” (p. 666); Gallese (2001) uses a variety of terminology including “implicit and unconscious”; and, whilst not reviewed by Corradini and Antonetti (2013), Meltzoff & Decety (2003) also use the word “automatic”. PAM – through the perception-action coupling generated by shared representations – clarifies the idea of automaticity, suggesting a mechanism by which this can be achieved, and one through which we can understand resonation.

Perception begins with the firing of neurons of the perceptual system. These neurons are known to fire both during the execution of an action, but, crucially, these same neurons fire when the subject perceives another execute an action (Gallese & Goldman, 1998). Thus, when reaching, grasping, or tearing motions are executed, a set of neurons fires in the ventral pre-motor cortex (Miall, 2003). This same cluster of neurons also fires when these same actions are observed (Miall, 2003; Pellegrino, Fadiga, Fogassi, Gallese, & Rizzolatti, 1992). Mirror neurons are not limited to visual

information: there is also evidence that these same neurons fire when a specific action is heard as well as performed and seen (Kohler, et al., 2002). Whilst at the neuronal level this research has been carried out in monkeys, the human equivalents of these areas have been observed in neuro-imaging studies showing the same activation when humans both observe and carry out an action (Buccino, et al., 2001; Decety, Chaminade, Grezes, & Meltzoff, 2002).

Mirror neurons not only code perception, they also reveal that to perceptually code an action “is equivalent to internally simulate” this action (Gallese, 2003, p. 174), from which understanding may be drawn (Gallese, Eagle, & Migone, 2007; Iacoboni, 2009). This is clearly an excellent system on which empathy could run; such a system could for example rapidly translate the perception of crying, an action, or sobbing, a sound, into the understanding the person being perceived is unhappy. So mirror neurons couple perception and action; because one perceives an action, one can understand the meaning of that action because one reproduces this action in the self, this reproduction being associated with the meaning of this action. Whilst empathy is of course a more complex phenomenon than action-recognition, we can see it nascent in the mirror neuron system. Equally, we can see in this system the genesis of the term “resonance”. By this rationale we can misquote Barrett-Lennard, and say that the mirror neuron system provides “an immediacy of recognition of the others’ felt experiencing and meaning” (Barrett-Lennard, 1993, p. 6). To explore this further, we move to the behavioural level of explanation.

At the behavioural level, the mirror neuron system is represented as motor empathy, more specifically as mimicry (Iacoboni, 2009). Chartrand and Bargh (1999)



have studied what they have come to call the “Chameleon effect”, defining this as “a non-conscious mimicry of the postures, mannerisms, facial expressions and other behaviour of one’s interaction partners” (1999, p. 893). Chartrand and Bargh (1999) conducted three experiments looking at mimicry. In the first experiment, confederates rubbed their faces or shook their feet, either while smiling or keeping their faces neutral. Regardless of the smiling, participants in the research increased their frequency of face rubbing or foot shaking to a robustly statistically significant level, they also increased smiling in the presence of the smiling confederate. In the second experiment, the confederate either mirrored participants’ body language or did not; those participants who were mirrored showed increased liking rating of the confederate, and increased ratings of the “smoothness” of the interaction. Most interestingly, the third experiment used the Interpersonal Reactivity Index – a measure of empathy – to group participants into high-perspective takers and low-perspective takers. The high perspective-taking group mimicked mannerisms of confederates more than the low-perspective takers. In an experiment that was perhaps more concrete still, van Baaren, Holland, Steenaert, and Knippenberg, (2003) found that waitresses mimicking customers increased both how often a waitress was tipped, and how much she was tipped. Outside of the chameleon-effect research stream, mimicry of facial expressions has been shown to both take place unconsciously and automatically (Dimberg, Thunberg, & Elmehed, 2000; Hess & Blairy, 2001); this latter finding is arguably based on movements both more subtle and complex than foot shaking and eye rubbing. Clear evidence then that mimicry not only has an effect on affiliation – robust enough to generate financial reward – but is not confined to simple body movements.

A brief lexical detour is necessary at this juncture. Mimicry is the copying of a motor action without the ability to modify it; imitation is motor copying, plus the ability to modify this behaviour (Williams, Nicholson, Clephan, de Grauw, & Perrett, 2013). Although the mimicry literature reviewed above is clearly relevant, Meltzoff and Moore (1983) studying imitation, provide another link between empathy and action. Meltzoff and Moore (1983) looked at infants between 42 minutes of age and 72 hours of age; infants this young were shown to be able to imitate two facial expressions shown to them by adults. Building on this evidence – and many further studies of infant mimicry and imitation – Meltzoff and Decety (2003) posit that “Imitation is innate in humans”, and further that “behavioural imitation and its neural substrate provide the mechanism by which theory of mind and empathy develop in humans” (2003, p. 491). They argue that imitation provides the “missing link” between mirror neurons and theory of mind/mentalising. The infant comes to know their own body and facial expressions through proprioception; infants can then link self and other behaviour through supramodal representation of bodily acts: memory representation of adult actions which can be compared to their own actions. This mechanism is extremely similar to PAM, both models relying on an automatic activation of a memory schema, or representation, of both an action and associated emotion. Such a mechanism integrates bodily movement, and higher cognitive function seamlessly, allowing for a much more embodied idea of cognition, one that has wide-ranging ramifications for our understanding of humanity.

### *Empathic Integration*

Whilst much of the above reviewed literature points to the existence of separate elements of the empathic process, all these areas interlink and effect each other (Duan & Hill, 1996). Thus, whilst it can enhance our understanding to talk about separate elements of empathy, and examine their properties individually, it is important to recognise that at higher levels of explanation these separate elements become redundant. This said, the final part of the empathy quartet – resonance, or the mirror/motor empathy system – can be argued to coalesce the entire structure of empathy, allowing for some fluidity between the demarcated elements, and an integration of levels of explanation. For this to happen, the ideas of Gallese (2001; 2003) must be brought to bear.

Gallese suggests that empathy is a “shared manifold” and that mirror neurons are “a neural basis of intersubjectivity” (2003, p. 171), something that both aligns with the PAM, and works across a number of levels of explanation. Gallese (2003) argues that the shared manifold of intersubjectivity (SMI) is an intersubjectivity mechanism within the human (brain). Where other authors (e.g. Stolorow, Atwood, & Orange, 2002) refer to intersubjectivity as a phenomenon that happens between humans, Gallese (2003) underlays intersubjectivity with a putative neural mechanism. The SMI can therefore explain intersubjectivity – an important part of the empathic milieu – across the levels of explanation: working on a phenomenological level; a functional level; and a sub-personal level. At the sub-personal level, we have the neuronal circuitry that underpins both social identity and empathy. Social behaviour/actions have meaning written into them: they are “implicitly meaningful” (Gallese, 2003, p.

177) because of the nature of mirror neurons. At the functional level, Gallese argues (2003) that the SMI accounts for “as if” models of interaction. These represent self and other, allowing the creation of separateness and likeness. Thus when perceiving, individuals know that others are “like me” as they act and look like me, but they are “not me” as these actions and looks are not being commanded by me. At the phenomenological level, the SMI gives the sense of similarity between ourselves and others, enabling empathy through the sharing of actions, experiences and emotions. The SMI represents therefore a conceptual tool that can provide integration across levels of knowledge, and indeed places the mirror system as the central component of the empathic process. If we apply Gallese’s model (2001; 2003) to our discussion so far, we see a holistic structure of empathy emerges, as shown in *figure 1*.

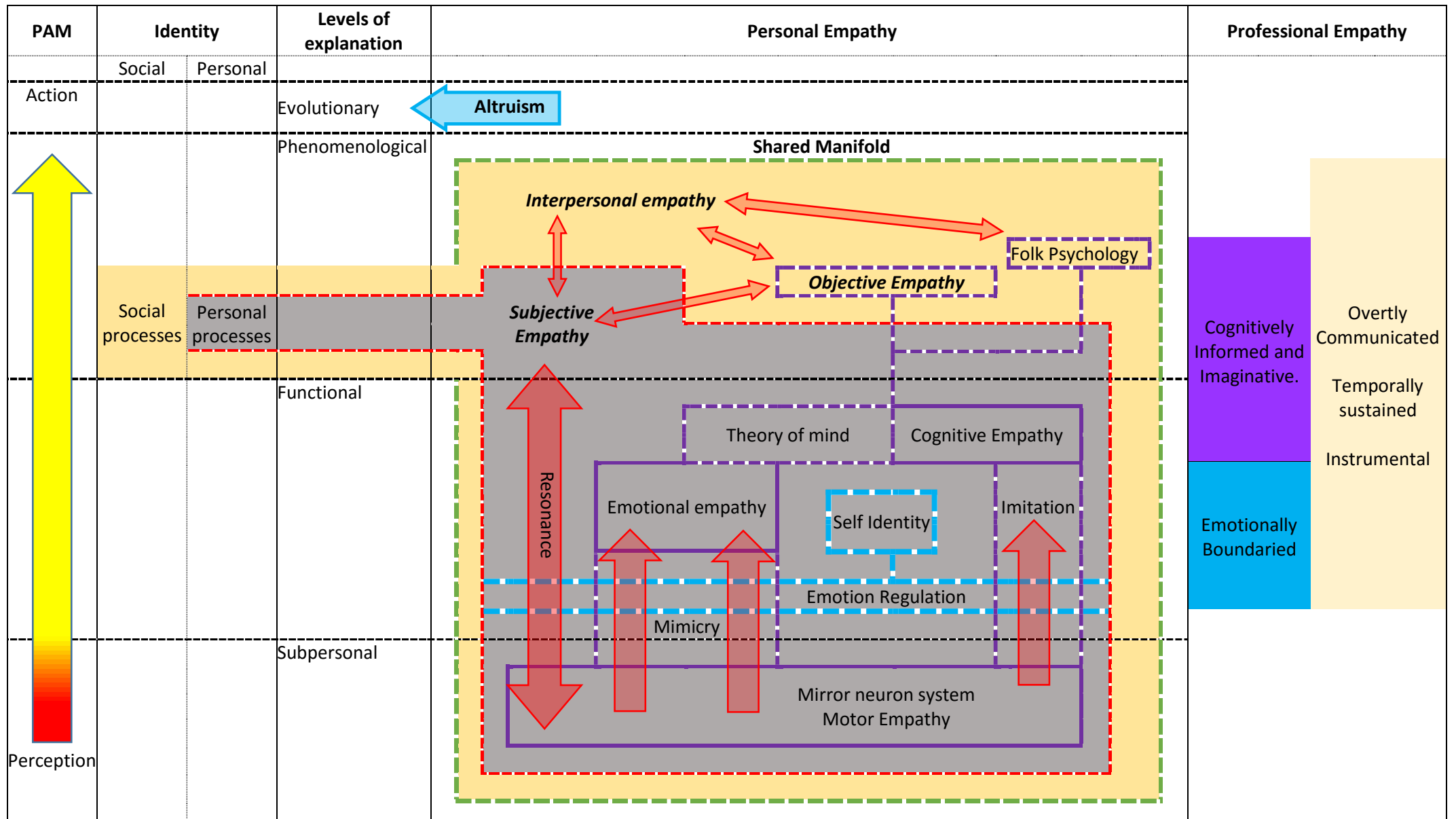


Figure 1: Schematic of the structure of empathy across the levels of explanation and domains of use.

*Figure 1* begins at the evolutionary level of explanation; the level of explanation that is beyond the remit of Gallese's model (2003), but which is the next level in the hierarchy of knowledge. From the perspective of PAM, humanity is bonded by their underlying brain mechanisms; that humans are linked at a neuronal level, is the ultimate cause of the evolved tendencies manifesting as altruistic behaviour. This is represented by the blue arrow flowing from empathy to evolution, labelled "altruism". The shared manifold is represented by the green dotted line around all elements of empathy, across all levels of explanation below evolutionary. As can be seen, the shared manifold holds within it both humans' social processes and identity (in beige), and personal identity and processes (in grey). Social and personal processes/identity are separated by the dashed red line. It is dashed to represent the idea that personal and social processes are interrelated, that the boundary to the self is a relational one, and that therefore it is permeable and flexible.

Within social processes – the beige area – we have three elements that are relevant to this model: folk psychology; interpersonal; and objective empathy. All of these will require at least some cognising and are therefore connected to cognitive empathy, albeit indirectly in the case of interpersonal empathy. Interpersonal empathy draws on subjective empathy, folk psychology and, in professional settings, objective empathy. Because cause and effect in these areas are complex and inter-related, they are represented by a two-way red arrows. Both interpersonal and objective empathy interact with subjective empathy; this latter is a personal process, and therefore sits inside the grey part with the four elements of the empathy quartet.

At the bottom of this quartet underlying all empathic processes is the mirror neuron system, synonymous with motor empathy, connected to the functional levels of empathy by resonance, mimicry and imitation. Whilst resonance, mimicry, and imitation are arguably the same things at a phenomenological level, they have been labelled separately for the sake of the functional level of explanation. Emotion regulation is depicted as the two blue dashed lines separating the mirror neuron system and other empathic elements. This line is dashed to represent the idea that emotion regulation is – as with identity – a permeable and flexible concept. *Figure 1* not only depicts the literature reviewed so far, showing how the four empathy prerequisites – the quartet – relate to each other, and to other empathy ideas, it also allows us to begin to draw the distinction between professional and personal empathy. In order to elucidate the far right column of *figure 1* – labelled Professional Empathy – we now turn to look at what the literature says and implies in this realm. This understanding will then lead us to how facial expression of emotion might be used to enhance professional empathy.

### *Professional Differentiation*

The first point to be made is a more philosophical point; by embodying empathy, the shared manifold and PAM, allow us to move away from the Cartesian dualism often associated with classical psychological models (Stolorow, Atwood, & Orange, 2002). The idea that humans have a “we-centric” (Gallese, 2003, p. 175) space within themselves gives foundations to such relational terms as: “interpersonal empathy” (Clarke, 2010) and the “intersubjective field” (Stolorow, Atwood, & Orange, 2002, p. 9). Arguably mirror neurons instantiate the intersubjective field, providing counselling psychology with an interesting literature on which a number of the more relational models are founded, and

integrate their ideas across the levels of explanation. The critique that counsellors rely on “extrasensory perception” (Buie, 1981, p. 284) is answered by the mirror neuron system and its effects on empathy, one of the aims of this thesis. Less philosophically, we now move on to look at the concrete differences between personal empathy and the professional application of empathy that the literature reveals. There are 7 differences, each relating to different facets of personal empathy, and each alluded to in the colour scheme of *figure 1*. To clarify, the first distinction made below – between personal and professional empathy – is the level to which empathy needs to be informed and imaginative. In the professional empathy column in *figure 1* Informed and Imaginative is shown in purple, the same colour as Cognitive Empathy in the personal empathy column. Emotionally Boundaried in *figure 1* is depicted in light blue, the same colour as Emotion Regulation and Self Identity – again, relating these to each other. Communication, Temporally Sustained, and Instrumental and Facilitative are depicted in beige, the colour of the Social Processes in *figure 1*, again signifying the interpersonal element of these professional facets of empathy.

#### *Cognitively Informed & Imaginative*

Although the personal use of empathy is informed by previous experience with others, and through reading literature (Mar et al., 2006), an important difference with professional empathy is the extent to which it is informed. Clark (2010) makes the point in his model that objective empathy may be informed by many sources. Objective empathy may draw on questionnaires, diagnostic guides, more general research papers and theoretical models. This last information channel, the theoretical model, is what Buie (1981) refers to as “conceptual empathy”, the ability to form a “model” (p. 297) of the



clients' distress through empathic communication. Radenovic (2011) calls for an "advanced understanding of emotions" which she sees as a "necessary condition" (p. 487) for understanding others. So it seems that a counsellor's cognitive empathy should be informed, girded with knowledge; this brought to bear to help empathically understand the world of the client.

Furthermore, within the literature there are a number of advocates of using imagination when trying to empathise with clients. This idea can perhaps trace its antecedents to Freud's evenly suspended attention (Epstein, 1984), or Bion's reverie (Cwik, 2011), both of which call for the counsellor to try to curtail ordinary thinking, and allow for the clients' words to conjure in them what they will. Associating this more explicitly with the empathic process, Buie (1981), and Clarke (2010), advocate the use of "imagination" when trying to empathise with the client; and whilst writing from a medical perspective, Anne-Scott (1997) sees imagination as critical when bringing together the perception of the patient, and thinking about them. Moreover, Mearns and Thorne (2007) when writing about enhancing empathy, argue that imagination is essential if counsellors are to develop their empathic ability. Thus, professional empathy requires an informed foundation, and an imaginative frame of mind; in the words of Mearns and Thorne (2007) "Parochialism is the enemy of empathy" (p. 50).

### *Emotionally Boundaried*

As mentioned above, a key distinction to make when looking at professional empathy, is that between empathy and sympathy. Whilst it is perhaps true to say that in vernacular terms this distinction is not particularly important, it is for counsellors. Mearns

and Thorne (2007) are blunt about this: “empathy should not be confused with sympathy”, making the distinction that sympathy requires one to be “compassionately moved”, but that empathy requires “seeing the world” through the others’ eyes (p. 49). Not only are these quite different phenomena, the latter necessitates the individual being able to regulate, and relatedly, disambiguate emotion. In order to see the world from the other’s perspective, emotions elicited by the other must be distinguishable from those elicited by the self.

If one is to try to temper one’s “compassion”, whilst at the same time differentiate the felt sense of the other from the felt sense of the self, emotion regulation, a key member of the empathy quartet, is essential. Going further, if the counsellor wishes to tune into the client, whilst preventing injury to the self, they require a “special” form of attention, an “empathic attention set” (Barrett-Lennard, 1993, p. 4). This necessitates the empathiser’s “active openness” to the other (Barrett-Lennard, 1993, p. 3); and herein lies an important paradox of emotion regulation in counselling. The counsellor seeks to be open, to allow themselves to resonate with the clients’ feelings, whilst also maintaining the integrity of their own self. Openness to the client without regulation may result in vicarious trauma or burnout (Trippany, White Kress, & Wilcoxon, 2004; Sexton, 1999). Knowledge of the self at a fundamental level, both cognitively and emotionally, seems to be driven by the professional’s connection to representations and shared representations of certain perceptions and their resultant actions. Strengthening these connections at the neuronal level, which presumably are subject like all others in the brain to managed Hebbian learning (McClelland, 2006), is a matter of repeated revisiting of the connections and their associated representations. At a functional level this will require exploring

certain patterns of emotions and what they touch in you; at a phenomenological level this is “to have highly sophisticated self-reflection and self-understanding” (Radenovic, 2011, p. 487).

However, extrapolating from the model outlined above, perception-action coding within a shared manifold suggests that self-other understanding is symbiotic, or what Radenovic (2011) calls “co-determined” (p. 489). It follows that to understand the self is to begin to understand the other, and importantly, vice-versa: to understand the other is to understand the self. The therapist must then not only seek “personal growth” (Elliott, Watson, Goldman, & Greenberg, 2003), but should also remain open to what the client elicits in them (Stolorow, Atwood, & Orange, 2002). Personal growth may be through therapy, political engagement or work on their own relationships (Elliott et al., 2003); it will also be useful to read fiction (Mar, Oatley, Hirsh, dela Paz, & Peterson, 2006) and develop methods of grounding the self (Geller & Greenberg, 2002). Grounding (Miller, 1981) or anchoring (Rothschild, 2000) – i.e. the ability to “feel centred steady and whole” (Geller & Greenberg, 2002, p. 81) in the self – is an important part of the more micro facilitation of self-identity and maintaining emotional boundaries. Personal therapy, reading fiction, and so on, are all more long-term methods of developing the self and exploring emotional boundaries; grounding techniques can be used immediately before the session, and even during the session.

### *Communication*

Another important difference between professional and personal empathy is the need to communicate it. In wider society, empathic concern, which may also merge with

sympathy, may often go unexpressed. It is not difficult to imagine times when friends and acquaintances tell each other distressing or personal things. In such situations, they will tend to give each other advice, say “I’m sorry to hear that”, or recount a tale of similar content. These kinds of interactions, the tooing and froing of distress/happiness and advice, are a mainstay of personal conversation. In these circumstances, empathy underlies the conversants’ reactions and responses to comments, but the content is unlikely be an emotional reflection, or a summary of the distress.

Professional empathy requires more open communication of emotional content; the felt sense is not merely translated into the counsellor’s advice or recollection, but is expressed in some way. Rogers (1956) was a clear advocate of this, and in fact made it one of the necessary and sufficient conditions of therapeutic change. Barrett-Lennard’s (1993); Clarke (2010); Elliott, Bohart, Watson, and Greenberg, (2011), Kohut (1984), and Mearns and Thorne (2007) all advocate the communication of empathic concern as a part of professional empathic process. Perhaps this is why in Carlozzi et al’s (2002) study of counsellor endorsements of empathy definitions, “Communicative process: a communicative process of experiencing and responding to another who then feels understood” (Carlozzi et al., 2002, p. 164), was one of only two – of five – factors retained when seeking to discriminate empathy definitions. There has been much debate as to exactly how this overt communication of empathy should take place, and over the value and utility of empathic reflections (Freire, 2007; Mearns & Thorne, 2007; Rogers, 1975). However, it certainly seems agreed that overt communication is an important part of the professional empathic process.

### *Temporally Sustained*

The ability to empathise over time is a critical facet of professional empathy that separates it from the more personal usage. Again, where empathy is used in a more quotidian way, it will tend to be fleeting and unfocused. Someone will “get a sense” or “have a feeling” or any other of a number of ways in which people describe the sensation of “picking up on” another’s emotions. Professionally though, whilst such fleeting circumstances occur, they are a part of the wider empathic process that takes place over a number of time frames: the fleeting short term; the sessional medium term; and the contractual long term. In other words, professional empathy can be a momentary sense, but it is also the weaving together of these moments in a session, and over the duration of the client contact, that separates professional and personal empathy.

This distinction is perhaps best encapsulated in Rogers’s (1975) idea that empathy is a “Process rather than a state” (p. 2); empathy should be ongoing and try to stay as close as possible to the clients “flow” of experiencing. Clark’s (2010) interpersonal empathy describes this empathy over time, and Buie’s (1981) conceptual empathy – explained above – explicitly mentions that this form of empathy will only arise over time. Goldberg (2011) sees sustained empathy as both a quantitative difference in professional use of empathy, and qualitative difference as well. Goldberg (2011) argues that by sustaining empathy the counsellor may be “used” by the client as a self-object, ultimately leading to self-integration.

Whilst an explanation steeped deeply in self-psychology’s theoretical understanding of the structure of the psyche, it chimes with Kohut’s later understanding that empathy was intrinsically part of the psychotherapy “cure” (Kohut, 1982) and

Rogers's notion that empathy is a necessary and sufficient condition of therapeutic change (Rogers, 1956). Barrett-Lennard (1993) talks about "second-order...empathy-like awareness" (p. 9) that arises out of the relationship, temporally sustained, with the client; this awareness he calls "meta-empathy" and "relationship-systems empathy". The former is the ability to discern (or not) the other's experience of your empathic understanding; the latter, is the understanding of the we-ness of the relationship and how empathy is being communicated and experienced in that space. For both of these to occur, empathy must be sustained over time.

#### *Instrumental & Facilitative*

The final difference between professional and personal empathy that the literature points to is the difference between facilitation and instrumentalism. Professionally and personally empathy is facilitative, that is to say it facilitates social interaction and social bonding (De Waal, 2008). However, professional empathy is used in an instrumental way as well. It is not simply a way of oiling the social machine, but also – theoretically – part of the process by which a client can come to achieve what they came to therapy to do. Rogers (1956) and the person-centred tradition (for example: Freire, 2007; Mearns & Cooper, 2005; Wilkins, 2003) are quite clear about empathy's instrumental role in achieving client growth, the psychoanalytic tradition too has its empathy advocates in Kohut and Goldberg, and latterly the CBT model has begun to see empathy as more than simply facilitative of the client-professional relationship (Thwaites & Bennett-Levy, 2007).

If we bring the above together and overlay it onto a single professional model, we can see how all the above 6 factors relate to the professional setting; to do this Barrett-Lennard's (1993) model of empathy is of great utility, and is delineated below.

- a. Empathic attention set in empathizer + object self expression
- b. Phase 1: Empathic resonance in empathizer
- c. Phase 2: Empathizer expresses empathy
- d. Phase 3: Object receives this
- e. feedback loop to phase 1.

Barrett-Lennard's model (1993) begins with the idea that empathy requires an empathic attention set, coupled with the clients expressing something to be empathised with. This empathic attention set can be conceptualised within the current framework as beginning before the counsellor has even met the client; by ensuring that they are fit to practice (Code of Ethics and Conduct, 2009), have developed a strong sense of self, and are sufficiently grounded in themselves. Moreover, the counsellors attention set will require putting in place the necessary emotional boundaries to sustain themselves and the client, whilst also allowing their imagination to flow freely, in a state of evenly suspended attention.

In Phase 1, the counsellor "resonates experientially" to the object in "an immediacy of recognition of the other's felt experiencing and meaning" (Barrett-Lennard, 1993, p. 6). Here there is then a need for cognitive empathy to be as broad and informed as possible – to allow the highest level of resonance; there will also begin the need for temporal sustainment to be present, allowing the counsellor to start to develop their empathic knowledge over time. In Phase 2 "communicative expression" of the empathizers phase 1

response is called for; Barrett-Lennard (1993) specifically excludes sympathy from this phase as it is “possible that this arousal stems from a reminder of his/her own suffering (or joys) to a degree” (p. 6). This latter point an overt reminder of the importance of remaining emotionally boundaried, whilst also calling for the communication of empathy.

In Phase 3: expressing empathy – rather than sympathy or simple reflection – allows phase 3: this is “being literally heard and understood deeply in some personally vital sphere” providing “relief, or something making sense, a feeling of inner connection one of being less alone, or of some easing or enhancing quality” (Barrett-Lennard, 1993, p. 6). Again here we have the critical distinction between sympathy and empathy, but we also see a final facet of professional empathy in the statement that empathy will bring an “easing or enhancing quality” (Barrett-Lennard, 1993, p. 6).

Within the literature there is evident some broad levels of agreement as to what empathy is, and indeed how professional empathy may separate itself from its more personal manifestation. We have also reviewed literature that defines empathy as founded in, and arising from, resonance or the mirror neuron system. From the centrality of the mirror neuron system it follows that the face – via mimicry and imitation – is of critical importance to the communication of emotion and therefore empathy. Below, the literature relating the face to the empathic process is now reviewed, with a specific focus on the work of Paul Ekman, whose eMETT was part of the inspiration for this research.

### *Facial Communication*

In 1971 Paul Ekman and his colleague Wallace Friesen published their neurocultural theory of emotion (Ekman & Friesen, 1969). This theory was built on work



done by Ekman and colleagues in the late 60's and early 70's studying both western cultures and non-western cultures (Ekman, 2003); and posited the universality of emotion and its facial display in humans. Importantly for the soundness of the theory, remote "non-literate cultures" had been studied; specifically the Fore (Ekman & Friesen, 1971) and Dani (Ekman, 1994) of New Guinea. These populations had not been exposed to any western media and the possible homogenising effects this may have. The neurocultural theory is founded on evidence for the universality of the emotions: fear; anger; surprise; disgust; sadness, and happiness (Ekman, 1994). This evidence – for the initial 6 emotions – has been replicated in at least 30 countries (Russell, 1994), though it is not beyond critique (see for example: Russell, 1994). Experimental work has argued that contempt (Ekman, 2003b) and shame (Keltner, 1997) can be added to the initial list of 6, though these emotions have not been replicated as widely or consistently.

Ekman and Friesen's (1969) theory postulates that there is a set of facial affect programs, and that these programs produce visible facial behaviour – or facial expressions of emotion (Ekman & Friesen, 1969b). These programs are pancultural, and therefore facial expressions of emotion are universal across humanity; however, cultural variability moderates and modifies the visible facial displays in two key ways. The first is that different cultures will relate to different "affect antecedents" in different ways. An example of this might be the Yulin dog-meat festival, a delicacy eliciting happiness in some; a travesty worthy of contempt or disgust for others. The second is display rules, whereby different cultures will amplify, moderate, or mask different emotions in different ways; for example the British "stiff-upper lip" at a funeral, verses Arab ululation. A more recent take on this suggests that there is a universal facial language – specific affect

programs – with cultural display differences being classed as dialects (Elfendin & Ambady, 2003). Display rules are an important part of the work on facial communication of emotion as they will often lead to the suppression of emotion; however, such suppression is rarely complete (Ekman, 2003a).

“Micromomentary expressions” (Haggard & Isaacs, 1966, p. 154) – latterly known as “microexpressions” (Ekman & Friesen, 1969a, p. 93) – are a form of emotional “leakage” that will occur when humans try to suppress the facial expression that may be appropriate to the felt emotion but which they don’t want to show. This suppression will either be to conform to display rules, or for more personal reasons. An example of the former might be to show a neutral face at a funeral – suppressing your sadness – and the latter might be to suppress the facial expression of fear at a horror movie to impress upon your friends you’re a “real man”. Leakage – in the form of microexpressions – may occur, as a brief flash of sadness at the funeral, or fear at the film. These brief flashes – microexpressions – are often scintillas of the emotion felt, and last less than half a second (Matsumoto & Sung Hwang, 2011), as compared to “macroexpressions” – the full facial expression of emotion (Ekman & Friesen, 1969a, p. 93) – which last 2 seconds or more (Hess & Kleck, 1997).

In order to carry out the cross cultural research, and replication, Ekman and colleagues created emotional archetypes, or the most extreme and complete macroexpression of an emotion; these have come to be known as “Ekman faces”. Examples of Ekman faces can be found in Ekman and Friesen’s 2003 book “Unmasking the Face”, though as Ekman (2003b) himself points out, emotions are rarely shown as extremely, or as singularly as they are in the Ekman faces. Emotions tend to be subtle

blends, or partial leakage of fragments of the full macroexpression depicted in the Ekman face. Ekman faces began as pictures, but latterly these static displays have been replaced with programs designed to teach microexpression recognition; an example being the Microexpression Recognition Training Tool developed by Matsumoto and Sung Hwang (2011).

Microexpression training has generally focused on deception detection (Navarro & Karlins, 2008; ten Brinke & Porter, 2013) for which there is evidence that it has efficacy (Porter & ten Brinke, 2010; ten Brinke, MacDonald, Porter, & O'Connor, 2012). Trial consultants (Matsumoto & Sung Hwang, 2011), law enforcement officers (Navarro & Karlins, 2008), parole officers (Porter, Woodworth, & Birt, 2000), and insurance claim handlers (Porter, Juodis, ten Brinke, Klien, & Wilson, 2010) have all been successfully taught microexpression recognition. Outside of the legal system, business professionals (Ekman, 2009) and shop assistants have been taught to recognise microexpressions (Matsumoto & Sung Hwang, 2011); moreover, Ekman's own Microexpression Training Tool (eMETT) has been independently validated for the teaching of microexpressions in a student population (Hurley, 2012).

The purported universality of facially expressed emotion, and the feasibility of enhancing emotion perception through training, are perhaps reasons why facial communication is "increasingly popular" (Regenbogen & Habel, 2015, p. 107) in both social cognitions research, and – more narrowly – empathy research. It is this research to which we now turn.

### *Empathy and the Face*

A recent study which serves to underlie the importance of the face in empathic perception is one carried out by Regenbogen et al (2012). In Regenbogen et al (2012) video clips of actors telling a story related to themselves were played to participants. These stories varied in the material discussed, whereby the story involved disgusted, fearful, happy, sad or neutral emotional valence. Each emotion was then delivered in a variety of conditions; in the “all emotional” condition, facial expressions, prosody, and speech content were congruent with the emotion in question. In the other conditions, a single element of the communication content was “knocked out”, thus there was a neutral face, neutral prosody, and neutral speech video. In the “neutral condition” emotions would continue to be shown in the other channels but would be knocked out in the relevant channel. For example, in the neutral prosody condition, the face would continue to be expressive as well as the speech, but the prosody was removed and the same words dubbed over with a neutral sounding voice stream which had been recorded separately. Participants were asked to fill out multiple choice questions (MCQ) on the emotion they felt in response to the video, the emotion they felt was being expressed, and were also monitored for galvanic skin response (GSR) to the emotion depicted in the video. Results showed that neutralising a communication channel reduced GSR to the emotion, reduced the MCQ scores both for the emotion felt in the self, and perceived in the other. The reduction in scores for emotion recognition was most pronounced in the neutral face condition (Regenbogen, et al., 2012).

Another study which underlies the relationship between empathy and the face is that by Williams et al (2013). In this experiment, static displays of emotion were created

by morphing model displays of emotion – based on Ekman faces (Ekman & Friesen, 2003) – from one emotion to another in emotion triads. These morphing pictures were created by placing the archetypal emotions at the vertices of a triangle, with the emotion displayed on the face morphing across the three pictures between each vertex. Two emotion morphing triangles were used: a Sadness-anger-surprise (SAS) triangle; and a fear-happiness-disgust (FHD) triangle. Participants were asked to imitate the emotions shown in all pictures produced by the morphing process. Empathy quotient (EQ) (Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004) scores correlated negatively with error scores on the imitation task on the SAS array but not the FHD. Williams et al (2013) account for this discrepancy in their result with the task difficulty of the FHD triangle; however, in a replication and neuroimaging extension of the original research (Braadbaart, de Grauw, Perrett, Waiter, & Williams, 2014), the FHD triangle correlated with the EQ. Braadbaart et al's (2014) study also showed activation of the mirror neuron system when subjects were imitating facial expressions. This correlation mismatch between the two studies clearly requires further investigation, but it is an interesting pointer in the direction of the current studies hypothesis, outlined below.

In a forensic population, convicted sex offenders show decreased rates of affective empathy, and decreased ability to recognise facial displays of anger, disgust, surprise and fear, with a positive correlation between the empathy and face recognition accuracy (Gery, Miljkovitch, Berthoz, & Soussignan, 2009). Within the psychology profession, research has not directly linked facial expressions and empathy, though there are a number of findings that are certainly suggestive. The first is a study by Maurer and Tindall

(1983) who studied the effect of postural congruence on Barrett-Lennard Relationship Inventory (BLRI).

Postural congruence is the mirrored mimicry of body language; and Maurer and Tindall's (1983) experiment compared conditions in which counsellors were posturally congruent with their clients, and conditions in which they weren't. The counsellors who were posturally congruent were rated by clients as significantly more empathic on the BLRI than those who weren't. This finding is clearly in line with the previously reviewed literature on mimicry, and whilst it is related to body language rather than facially expressed affect, it nonetheless points in the direction of empathic enhancement through such mimicry. Two other studies have shown that facial expressions of emotion are related to psychotherapy outcome (Banninger-Huber, 1992; Merten, Anstadt, Ullrich, Krause, & Buchheim, 1996); and whilst there is no causative relationship suggested, it certainly adds to the idea that the face is not simply an important communication channel for personal empathy.

Above, it has been argued that the face is both an important communication channel, and more precisely, a communication channel of empathy. If we are to see whether this relationship can affect empathic ability, we need a measure of this ability; this measurement is described in the following section.

### *Measuring Empathy*

Whilst it is not a central aim of this thesis to delimit and describe the wide variety of measures of empathy, a brief exegesis will serve to contextualise the choice of measure used in this research. As wide ranging reviews of empathy measures have already been conducted by a number of different research groups: (see Duan and Hill (1996); Elliott et al (2011); Eisenberg and Lennon (1983)), findings from these reviews will be summarised below rather than replicated.

Elliott et al. (2011) outline 4 broad categories of empathy measure: observer rated empathy, client ratings, therapist ratings, and empathic accuracy, to which Duan and Hill (1996) add physiological measures. A wide array of client and therapist ratings have been produced (Duan & Hill, 1996; Elliott et al., 2011); examples include the empathy quotient and the Interpersonal Reactivity Index; and more recently the Questionnaire of Cognitive and Affective Empathy. Although validated, such measures tend to suffer from social desirability bias (Duan & Hill, 1996; Stangor, 2007), a facet of these measures clearly highlighted in research on gender differences in empathy.

A much vaunted difference in empathic ability has been suggested to exist between men and women; importantly though, this sex difference is most pronounced in self-report measures, and disappears when empathy is measured unobtrusively or physiologically (Eisenberg & Lennon, 1983). This weakness in the use of self-report measures is lent further credibility when considering findings from the Empathic Accuracy paradigm. This paradigm – detailed further below – revealed no sex differences in empathic accuracy between men and women, except when the participant response form explicitly stated that the test in question was concerned with empathy (Ickes, 2003).

Another aspect of such measures that has led Duan and Hill (1996) to describe findings based on them as “questionable” is the propensity for “human perception errors” (p. 264); to wit an individual may think that they have understood, or been understood by another, but in fact this may be untrue. This seems to point to the conclusion that questionnaire measures of empathy, or therapist ratings, should be treated with caution. This maybe especially so for therapists, who arguably have a greater desire be empathic and therefore biased in their self-report. Observer-rated empathy, whilst able to circumvent biases within the individual, suffers from a lack of validity as it can be confounded by the therapists’ communication ability (Duan & Hill, 1996) and paralinguistic practices (Elliott et al., 2011). Moreover, this type of measure would seem to fall prey to the latter critique of the self-report measures, though rather than the perception error affecting the subject or object of empathy, it simply effects the third party rater.

Physiological measures including electrodermal activation (Mauss, Levenson, McCarter, Wilhelm, & Gross, 2005) and heart rate (Levenson & Ruef, 1992) have also been used to study empathy. Whilst these measures lack the subjective issues outlined above, they are also subject to critique. In terms of skin conductance, whilst this has been extensively used, it is a somewhat crude measure of empathy, relying on a high level of abstraction, the same can be said of heart rate. Empathy has also been extensively studied with fMRI (Eisenberger & Lieberman, 2004; Lamm, Batson, & Decety, 2007; Hurlemann, et al., 2010). The jury is still very much out on the statistical practices of much neuroscience work (Vul, Winkielman, & Pashler, 2009) though see Lieberman, Berkman and Wager (2009) for a riposte. Indeed there is much controversy as to whether “the



where” in the brain, can necessarily be linked to “the what” of the brain (Coltheart, 2006). Again, see Henson (2006) for an alternative view. Whilst a “time consuming” methodology (Elliott, Bohart, Watson, & Greenberg, 2011, p. 4), the empathic accuracy paradigm may avoid many of the issues outlined above.

### *The Empathic Accuracy Paradigm*

William Ickes developed the empathic accuracy paradigm (EAP) (Ickes, 2001) which has spawned a number of research findings and extensions for over 20 years of research (Ickes, 2009). The EAP was originally used to assess the variations in empathy in dyadic interactions in couples with varying levels of intimacy: comparing strangers and friends (Colvin, Vogt, & Ickes, 1997), dating partners (Ickes, Stinson, Bissonette & Garcia, 1990), mixed and same sex pairings (Ickes, 2003).

The EAP begins with the secret filming of two people whilst they are in a room ostensibly waiting for the experimenter to arrive. After the waiting is over, the partners in the dyad are told they have been secretly filmed and asked if they would like to take part in the next part of the experiment. If they agree, each partner from the original dyad views the secretly shot footage separately, and is asked to stop the video where they can remember having had a specific thought or emotion. A critical point here is that the partner – now participant – is asked to note down the thought or feeling that they remember having during the waiting room interaction, not subsequently whilst viewing the footage. Once the participant has made a note of what they were thinking/feeling at the first point, the video is restarted and they watch until they remember the next thought or feeling they had, when again the video is stopped and note is made.

This stopping and annotation process continues until all the footage has been watched – separately – by both partners. Once complete, each participant then re-watches the footage, which is stopped for them at the point their partner – the other participant – has made a note. The participant is asked to write down what they think the other partner was thinking/feeling at that point. Again, this is an iterative process, the participant watching the entire footage and annotating every stop point that the other dyad member made. Once complete, both partners are debriefed and the experiment is concluded. Raters – blind to the hypothesis – now compare the notes made by each dyad member and assign marks for each “match” between what the original partner and what the subsequently viewing participant said they thought or felt.

Raters mark the stop point notes on the following basis: if the content of the subsequent viewers notes is “essentially different” to what the initial participant wrote, they score 0; if the participants’ inference is “somewhat similar” they score 1, or “essentially the same” they score 2. The sum of these scores represents the empathic accuracy score (Ickes, 2003), with a sub-score for feelings: the total correct feelings identified; and thoughts, i.e. the total correct thoughts identified.

The EAP is unique in empathy research as it gives the object of the empathic inference the ability to record situation specific cognitions and emotions which the empathizer must divine. Thus it removes human perception errors found in other empathic measures, and equally allows the assessment of empathy without self-report bias; it is therefore an objective measure of empathy. The only subjective element to the process is in the raters’ marking, a process which is only subjective as far as the phrasal qualities of answers is concerned, and provided raters are blind to the hypothesis should

remain minimal. Although objective in many ways, the EAP is still subject to memory confusion in the footage participants; like every measure then it has both advantages and disadvantages. On balance, this paradigm is a good way to access participant subjective reality, whilst making this available for objective testing.

More recently the Movie for The assessment of Social Cognition (MASC) (Dzoihek, et al., 2006) has been developed. This paradigm uses actors to depict people getting ready for a dinner party, each person comes to the dinner party with their own agendas, some which are explicit, and some which must be inferred (Dzoihek, et al., 2006). Whilst it is a paradigm somewhat similar to the EAP, the EAP remains exceptional as it is naturalistic from the outset – the MASC relies on actors to generate the content. Moreover, the EAP can be adapted to assess empathy in clinical situations. This has been done to examine the effect of feedback on empathic accuracy (Ickes, Maragoni, & Garcia, 1997), and to assess the effect of a training program on trainee empathy (Barone et al., 2005). In Barone et al (2005) a client counsellor interaction was filmed and annotated as per the EAP instructions above, though only the client in the interaction made notes. Participants were Psy.D, Ph.D or Clinical Psychology students, who were tested before and after a semester of training, practice hours and teaching. The participants showed a shift in empathic accuracy score from pre-semester to post-semester testing.

Whether using the EAP, or some other measure, it seems empathy is capable of some level of quantification, and, as argued above, is central to the psychotherapy endeavour. What evidence is there for its susceptibility to training?

### *The Current Study*

As outlined above, a literature search revealed no studies seeking to teach empathy within the psychotherapy literature. However, in the medical literature, a single study shows that there is efficacy in such training. Riess, Kelley, Bailey, Dunn, and Phillips (2012) trained a group of doctors for three hours spread over a month in an intervention aimed at enhancing empathy. Riess et al's (2012) intervention consisted of lectures, skills-based teaching, and experiential practice to enhance physician empathy. Arguably this is similar to the content of much psychology training, and the training group showed significantly greater improvement in patient rated empathy over the control. The similarity between the Riess et al (2012) curriculum and the training given to psychologists is arguably why such interventions are not used in the psychotherapy training program – the programs already achieve these aims (Barone, et al., 2005). Moreover, it is arguable that physicians need empathy training, as medical training and practicum reduces their empathic capacity (Hojat, et al., 2004; Hojat, et al., 2009; Neumann, et al., 2011).

Another study relevant here is one conducted by Hassenstab, Dziobek, Rogers, Wolf, and Convit (2007), who looked at the empathic abilities of a group of psychotherapists. The psychologists' empathic capacity was compared to a group of control participants matched for age, education years, and IQ. The results of interest, were the differences between the psychologists and matched controls on the MASC and the Ekman Faces test. The MASC test is designed to test participants ability to infer the mental state of others in a normal social interaction, and has subscales relating to verbal content and non-verbal content—facial expressions and body language. The MASC

showed a statistically significant result between the psychotherapists and the matched controls, but only on the verbal subscale, the Ekman faces test showed no significant difference. From these results Hassenstab et al (2007) conclude that psychotherapists have an empathic advantage, but that this advantage does not derive from their ability to read facial expressions of emotion. Rather, they suggest that therapists are better at inferring the mental states of others through the use of subtext within verbal communication, and that this is whence they draw their empathic advantage (Hassenstab et al., 2007).

To summarise, the face is critical in the communication of emotion (Regenbogen et al., 2012), with correlations shown to exist between empathic traits, and the ability to imitate facial expressions of emotion (Gery et al., 2009; Williams et al., 2013; Williams et al., 2014). These empirical findings are easily accounted for by a definition of empathy which is founded on the mirror neuron system. What these findings, and the current definition point to, is an empathic system that is driven by the perception of the face, in much the same way as language is driven by the perception – hearing – of words. If we combine this empathic system with the evidence showing that training in how emotion is expressed on the face can enhance emotion recognition (Hurley, 2008; Matsumoto & Sung Hwang, 2011), a rationale for this study is apparent. Moreover, the knowledge that psychotherapists have an empathic advantage, but that this does not derive from their ability to read the face (Hassenstab et al., 2007) suggests that using eMETT training may help this professional community. Thus, the current study aims to assess whether the eMETT can be used to enhance empathic ability.

## Methodology

Although the inspiration for this thesis was a moment in a counselling session, I have nonetheless taken a direction guided by underlying philosophical frames, which I examine below. My background in psychology is a BSc, which approached psychology as a science. This scientific frame was realist, positivist, and relied on evidence garnered using the scientific method. This frame was one that had been apparent in my education long before my psychology degree. My journey through education, starting in primary, through GCSEs and A-levels, had all been framed in the idea that there is a knowable, law-guided, objective reality. The neoliberal society in which I have lived all my life is also subject to the dominant discourse of positivism. Science, in the realist mould, has achieved societal hegemony in a way that could not but have affected my consciousness. I came to do a doctorate, though, that challenged this frame; this doctorate was founded in a relational model, based as it is on phenomenology and inter-subjective experience.

The philosophical frame that my education and experience had been based on – my preconceptions – was entirely predicated on positivism, asserting that the world was known by measurement and observation of this measurement. The only challenge I had had to this was in the form of a somewhat rigorous catholic upbringing. Underlying this was the notion of god, a being unknowable, only capable of being believed in or not. Though not perhaps the most convincing of arguments, this religious presence in my life preserved the idea of something beyond measurement. Metaphysics then was a quotidian presence; school life consisted of prayers twice a day, mass twice a week, grace before every meal, and compulsory religious education till A-level. So whilst many hours of the day were spent studying science, economics, history, geography and maths, all

based in a primarily realist frame, I still had the unknown presented to me on a daily basis. None of the above is to assert that metaphysics and phenomenology are the same thing, but there was at least a foundation in my psyche for the idea that not all knowledge need come from a “verified” and “valid” source.

In phenomenology the meaning that experience has to the perceiver is epistemologically central. Positivism asserts that when grounded in verifiable data, knowledge is to be privileged. Clearly there is a contrast in these positions, but the two needn't be exclusive, despite this epistemological variation. Perhaps an axiomatic stance would be grounded in a solipsistic position, asserting that we can know nothing outside our own mind.

Relying on this – my own mind – I assert that I value intelligence, loyalty, connection, and pleasure above all other things. Why I do this, is beyond the scope of this section, but taking “intelligence” as the germane example, what I mean by this is encapsulated best by Bertrand Russell: “The fundamental cause of... trouble is that in the modern world the stupid are cocksure while the intelligent are full of doubt” (Russell B. , 1975, p. 204). This pithy remark reveals an underlying statement: that to seek intelligence, one must try to remain unsure. Russell tersely summarises then, that I – for perhaps metaphysical reasons, or an entirely explainable set of bio-psychosocial factors – aspire to be unsure. Whatever epistemology I adopt, even if it takes me away from solipsism, I will always seek to remain unsure, and therefore strive for intelligence. Integrating a phenomenological and positivist frame becomes easier when the imperative is to be unsure, as they can be reconciled simply by considering both. What this leads to is a stance that can be summarised thus: I value subjective experience, but weigh within my

subjective experience verifiable findings. Ultimately, by remaining unsure, and therefore trying to resist holding onto any one philosophy too tightly, one can combine ideas and create new truth.

If one takes the above outlined position, subjective reality and truth are on some level aligned, one can discern a social constructionist view. This idea, that reality can be examined from the viewpoint of the socially situated human, fits within a philosophy guided by the unsure observer. The first problem when trying to define social constructionism: attempting a definition one must take a realist position, something that is “profoundly anti-constructionist” (Potter, 1996; pg.125). However, constructionists do allow that by acknowledging this, I can show my awareness and thereby continue from a realist position. To quote Berger and Luckmann (1966), social constructionism is founded in the idea that “reality is socially constructed” (Berger & Luckmann, 1966; pg.13) and that the world known by humankind “is not required by what there is” (Gergen, 2009; pg.5). Rather, the world is constructed by humanity who experience and sense, but they also interpret; it is through this interpreting – a social enterprise – that humans construct the world (Gergen, 2009). As an example, take the ostensibly axiomatic idea of gender. Humans have a genital binary and therefore the human world is split into male and female. However, gender is created by a “stylized repetition of acts” (Butler, 1998; pg. 519) so the “and therefore” in the above sentence is not necessarily true. The existence of given genitals does not dictate that humans act in specified ways, don clothes of a particular variety, or work in certain industries. Society specifies “stylized acts” for males and females, gender is constructed somewhat arbitrarily on the basis of different genitals. More concretely, ask a Scotsman why he’s wearing a skirt; he’ll correct you, it’s a Kilt.



However, take a kilt to someone from Sierra Leone, they'll likely tell you it's a skirt. The kilt then has been constructed by Scottish men as a male form of clothing which isn't a skirt, despite the fact that to all intents and purposes a kilt is a skirt. Of course it should be added that there is nothing inherently female or male about a skirt, this is another social construction. The constructions in society are moulded through discourse – "the building blocks of social reality" (Coyle, 2006; pg.368). Discourse – talk or text in society – constructs reality, it does not simply reflect reality (Burr, 2003). If we apply the above to my thesis, we can re-examine the idea of "an experiment".

From a positivist position, an experiment provides data verifiable through the scientific method, and therefore, testable truth. Testable truth is seen by a positivist as capable of supporting or refuting theory, this is the value of an experiment. From a phenomenological view, an experiment is void of subjective validity; it has formed an abstraction, one not subject to experience. From a social constructionist point of view, an experiment has social meaning: meaning no more valid than other conceptions of reality, conceptions which have not been parsed through the algorithm of positivism. However, it is also arguable that an experiment is capable of allowing experience to be retrospectively validated. Data from such an experiment can be analysed and theoretically positioned, and if the results of this experiment are then considered in view of the wider social reality, the experiment may be seen as a powerful tool. Powerful because such an experiment will have provided subjective validation, positivist data, and an opportunity for socially deconstructed awareness. This experimental design would provide a philosophical confluence; and if practicable, could instantiate this philosophical convergence.

In order to create the experiment laid out above, the experimenter must provide a design that attempts to measure his reality against that of similar others, and then relate this to positivist theory. The hypotheses need to be designed to validate both the phenomena experienced by the experimenter, and theory that may explain these phenomena. Theory can be drawn from across the levels of explanation, but will be strengthened if capable of joining levels of explanation (Mayr, 1961). Results from this experiment can then be considered within the wider social context.

This thesis aims to do exactly this: the literature reviewed provides a comingling of epistemology, a positivistic grounding for a phenomenological level of experience. The experiment tests phenomena experienced by me – in my relationship with Nancy, – and the hypotheses will retrospectively validate – or not – this experience against the abstracted reality of others. This provides the most important aspect of the mixed method stance; by testing my experience of eMETT training, against the – albeit abstracted – experience of other psychotherapy professionals, I have given my positivist experiment a phenomenological foundation. Finally, a critical analysis of the results will interrogate the reported findings of the experiment, examining them in the light of the surrounding social reality. This will finalise the philosophical nexus, and complete the thesis.

## **Method**

### *Overview*

In order to realise the aims set out in the Methodology, in line with the literature reviewed, the study design married the EAP, with the eMETT, and a training as usual control. Below, all elements of this study design are drawn out, starting with the hypotheses, then the procedure and design of the experiment. Next, the participants and their demographics are described. The ethical considerations of the study are considered, and the stimulus film that all participants watched is outlined. The process of choosing, recording, editing, and scoring this film is described, along with the tasks that each participant group completed. This will complete the methods section, and the results obtained from the study will then be presented.

### **Hypotheses**

The aim of this study is to test whether eMETT training can enhance empathic accuracy; the literature outlined above suggests that this may be the case. The literature above argues most strongly that emotional empathy is likely to be enhanced by better emotion recognition. However, as the domains of empathic ability – cognitive and emotional – are clearly interrelated, there is grounds to argue that cognitive empathy may be somewhat enhanced. In recognition of this a hypothesis relating to overall empathic accuracy – inclusive of cognitive empathy – has been included in the following four research questions:

### *Hypothesis 1 (H1)*

Do participants in the experimental condition achieve a better overall empathic accuracy score on the EAP, compared to those allocated to the control condition?

### *Hypothesis 2 (H2)*

Will participants in the experimental condition achieve a better emotional empathic accuracy score on the EAP, compared to those allocated to the control condition?

### *Hypothesis 3 (H3)*

Can participants in the eMETT group improve their ability to recognise facial expressions of emotion? This improvement indexed by an increase in participant eMETT score, from pre to post-test.

### *Hypothesis 4 (H4)*

Is there a positive correlation between emotional empathic accuracy score on the EAP and the post training eMETT score for participants in the experimental group?

### *Procedure*

Participants were tested individually, each participant read the information form, and gave informed consent (see *Appendix B* for a copy of the participant consent form). Participants then filled out the demographic and training information forms, as well as the QCAE questionnaire, after which each participant was then asked to complete their

assigned task. This task was either to read for 40 minutes, or use the eMETT for 40 minutes. After which, participants then watched the empathic accuracy film whilst completing the empathic inference form. Once participants had finished watching the stimulus video they were debriefed, and given the opportunity to ask any questions they might have; this concluded the experiment.

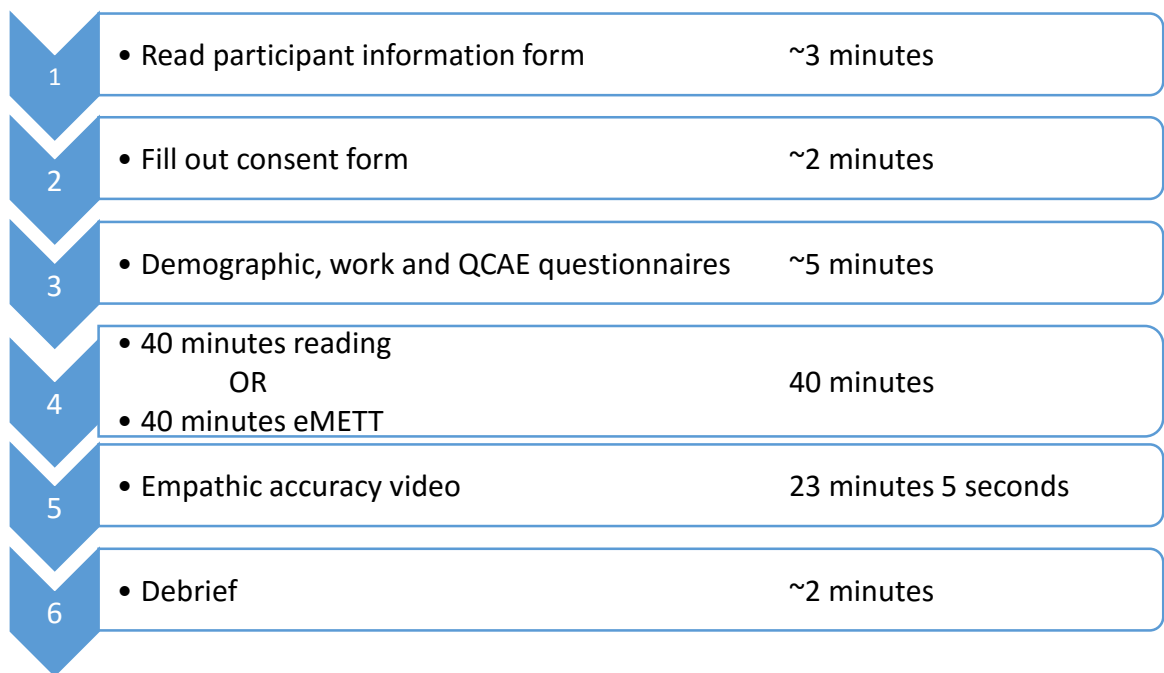


Figure 2: Schematic of the experimental procedure with approximate timings.

### *Design & Statistical Analysis*

The sample for this study was an opportunity sample, drawn from pools of participants that were both accessible, and amenable to giving ethical consent. Group allocation was stratified convenience allocation, the single baseline variable that was controlled (stratified) was the number of men in each group. Whilst there is some contention over whether there is a disparity between men and women's empathic ability (see Eisenberg & Lennon, (1983) for a review), it was felt that men should be equally

allocated to each group to prevent any biasing effect this may have. The convenience allocation was based on two factors outside of the experimenters control, Specifically wifi intermittency at one testing site, and the preference of some participants to not do eMETT training.

The experimental design involved a single Independent variable with two levels. The independent variable was training type, the levels reading – Treatment as Usual (TAU) — and eMETT. This was therefore a between groups design with participants conveniently assigned to two even groups – the E-METT group and the TAU group. Group differences in age, QCAE score and practice years were tested using independent samples T-Test. Independent sample T-test was used to compare means in for the empathic accuracy measure. Pearson Chi-Square was calculated to assay practice modality differences.

### *Participants*

Participants were 60 psychotherapists or trainees with at least one year of experience of face-face client work; see *Table 1* for the relevant practice, demographic and baseline information of each group; participant therapy practice models are shown in *Table 6*.

Participants were recruited via email and flyers from Roehampton University Psychology department, and the Wimbledon Guild of Social Welfare. Participant inclusion criteria were that each participant should have a minimum of at least 1 year experience in face to face client work; be currently seeing clients on a one to one basis; and be qualified to at least diploma level.

Part of participant recruitment was a consideration of the time required to participate in the experiment. Because participants were not being paid, it was felt that total participation time should be limited to an hour, or as close to this as possible. See *Critical Analysis* below for further discussion of this point.

Table 1: Participant demographic, practice and baseline information.

	Reading - TAU	eMETT	<i>p</i> -value
Sex			
Female: N (%)	24 (40)	25 (42)	<i>n.s.</i>
Male: N (%)	6 (10)	5 (8)	<i>n.s.</i>
Age	44.6 (12.6)	37.8 (11.5)	<i>0.03</i>
Age Range	26-74	24-69	
QCAE Score			
Cognitive empathy	60.8 (12.9)	61.5 (6.58)	<i>n.s.</i>
Affective empathy	31.7 (7.71)	34.3 (4.54)	<i>n.s.</i>
Practice years	7.42 (9.37)	5.75 (6.27)	<i>n.s.</i>
<i>Note: All values are means (SD) unless otherwise stated. QCAE: Questionnaire of Cognitive and Affective Empathy.</i>			

### *Ethical Consideration*

This research was carried out with Roehampton University Ethics Committee approval, and within the research ethics guidelines of the BPS.

All participants in the study, and the video stimuli, gave fully informed consent; this was done through the use of the university consent form. No participant received remuneration for taking part in the study; however, all participants received a one-year licence to computer based training on the eMETT program without charge (usual RRP \$79: ~£55). This licence was given to all participants regardless of their experimental groups, before their participation. This was done to ensure that no participant felt their licence allocation was dependent upon participation, and to ensure that each experimental group was treated the same.

All participants were assigned an individual number used in place of their name. This number was the identifier in the raw data, and processed data only referred to as “participants”, no more specific moniker was used, and certainly no identifying information has been provided throughout this study. The list linking names and numbers is handwritten, and is filed in a safe in my home office. This list will be destroyed in line with those stipulations in data protection act, and BPS code. If published these records will be retained for 5 years; if not, one year.

The consent form specifically mentioned empathy; the use of stratified sampling, ensured that any potential biasing effect of gender – elicited by the use of the word empathy (Ickes, 2003), – was compensated for. This allowed the experiment to avoid participant deception. As part of the consent form, participants were informed that they can withdraw at any time without giving a reason, and that there is no academic necessity to take part in the project. Thus, any students enrolled in the study, could decline to participate, or withdraw during the experiment, and know their course marks would not be adversely affected. Participant information included a debrief, this covered the



possibility of emotional distress – noted in the project risk assessment, – and gave details of both the researcher, departmental head, and supervisors. For participants outside the university, their debrief included details of the head of counselling at Wimbledon Guild, and local agencies that might be of use.

A final, but important ethical consideration raised by this research, was that of participants gaining an understanding of how emotion appears on the face; a training that would generalise into their domestic lives. This generalisation is potentially problematic, for example, if a participant were to catch a spouse or other in deception; deception that they identified because of a micro-expression incongruence in a domestic exchange. The sort of understanding that micro-expression training confers on those who have completed the course is potentially a risk, if it were to engender a situation that would not have existed before. Such a situation might put the participant at risk of harm, harm arguably attributable to the eMETT training. However, a number of points both mitigate this risk, and argue against direct attribution to the experiment. Firstly, in order to use eMETT training in deception detection, or other less benign purposes, further specialised training is required. The eMETT itself teaches how emotion is shown, not how to analyse the gap between what is said, and what emotion revealed on the face: a vital element in deception detection. Secondly, this training does not confer a “new” skill, but simply enhances and makes conscious a skill that is already present (Regenbogen, et al., 2012). Such training, whilst beneficial in a therapeutic boundary, will not necessarily be of use in more fluid personal exchanges. Relatedly, eMETT enhances perception, but does not – without further training – enable judgement, eMETT is arguably then, of less impact in participants’ lives than all other training they have received as psychotherapists. Finally,

this training is currently available to all on a commercial basis

(<https://www.paulekman.com/>), and is therefore not placing participants in a position they could not otherwise be in.

### *Stimulus Film*

The empathic accuracy paradigm requires the creation of a stimulus film for viewing by participants. The stimulus film was created in line with those instructions outlined by the paradigm's originator William Ickes (Ickes, 2001; 2003) and modified by Barone et al. (2005). To wit, a client counsellor interaction was filmed, and edited in the following manner.

At the outset, it is important to note that the current study moved away from an on screen dyadic interaction, to a single person format. Ickes (2001) originally designed the paradigm so that the video depicted an interaction between two people, importantly with both of these people seen on screen. In the current study, whilst a dyad interacts – counsellor and client – the counsellor remains off screen and the client is the only person visible. This change was made to create a stimulus as close to a “live” counselling session as possible.

The counsellor in the filmed interaction was a male, BACP accredited counsellor with over 2000 hours supervised experience. This counsellor used the Person Centred model of counselling during the interaction, chosen to prevent the clients being led as may have happened with a more directive approach. The clients in footage were all associates of the experimenter; they were females with previous experiences of counselling in a variety of settings. Females were chosen in this role as previous research

suggests they are easier to read in these settings (Ickes, 2003), a decision made in order to avoid floor effects.

The counsellor in the interaction is from the Person Centred school; they were asked to provide “containment only”. This containment-only approach was to allow the client to open up issues as far as they wanted, but not to challenge the client, or push them any further than they wanted to go; this decision was taken on ethical grounds.

Each client was asked to talk about any issue in their life they felt would be appropriate, bearing in mind that the resultant footage would be shown to others, albeit psychotherapists. The clients were asked to share whatever “depth” of information they felt comfortable with, but were asked to bring a topic that would at least elicit some emotional reaction in them. A lack of emotionality would both jeopardize the ecological validity of the session – most counselling sessions are at least somewhat emotionally charged – and may give rise to a lack of variation in participant scores.

The study conducted was approved by Roehampton University Ethics Committee on the basis that informed written consent was obtained from the clients, and the counsellor, to participate in the interaction, and for the interaction to be shown to psychotherapists. Informed written consent was also obtained from all participants in the research. Neither clients, nor the counsellor received any remuneration for their work.

A total of three clients were filmed, each for a 50-minute, mock counselling session. Filming took place in the private practice rooms of the counsellor in the interaction. The video-camera (Sony HDR Camcorder) was setup in such a way as to face the client in the interaction; the counsellor was off camera. In line with the hypothesis the

ideal zoom level on the camera would have been to focus on the face only. However, in order to reduce constrictions on the clients' freedom of movement, and thereby maximise ecological validity, the camera was zoomed to show the clients' upper body and face; see *figure 3* below demonstrating this zoom level (the clients face has been covered for ethical reasons). This zoom level allowed the clients to shift in their seat without disappearing off camera, whilst negating the need for a camera operator, who may have made the clients feel awkward.



*Figure 3:* screen shot demonstrating client position and camera zoom level.

Once the filming was complete, clients viewed the film and were asked to stop it whenever they could remember what they were thinking and/or feeling at that moment in the session (Ickes, 2001). At each point where the film was stopped, the time was recorded, and the client wrote down what they were thinking and/or feeling at that moment. Once a record was made, the film was restarted and client stopped it at the next point they remembered a specific thought/feeling; a process reiterated until all the footage was reviewed. Importantly, clients were asked to record only feelings or thoughts

they had during the interaction, not new thoughts or feelings occurring whilst watching the footage (Ickes, 2001).

At this point a single client's film was excluded as the material they had spoken about was insufficiently varied in terms of emotional and thought content. This client's emotion stop points were solely anger, and their topic of conversation only concerned their working environment. Although in the original paradigm such exclusion is not called for (Ickes, 2003), to prevent ceiling effects that may be caused by a homogeneity of emotion/thought content, the experimenter decided to exclude this client footage from further editing.

Footage from the remaining two clients was edited (using Windows Moviemaker v.2012) by the experimenter to produce two films of approximately 20 minutes length, one from each client. Both films contained 15 emotion/thought stop points.

From these two films a single film – 23 minutes and 5 seconds long – was chosen as the stimulus film. This choice was made as an initial pilot suggested that the scores on one film were well above previously achieved average in this paradigm (Ickes, 2003). whereas the score on the chosen film were more in line with this average.

The length of footage between each stop point varied from 30 seconds to 2 minutes. The length of these footage intervals varied dependent on two variables; the first being when the client had decided to stop the footage. The second was the need to edit the footage to produce a video of approximately 20 minutes, which would allow the experimental procedure to last no more than 75 minutes in total. Thus, the 50 minute counselling session, needed to be condensed whilst at the same time maintaining a

narrative thread. Equally, a slightly longer initial lead in – the footage before stop 1 – was wanted to allow participants to begin to develop an understanding of the session tenor and “story” being told. *Table 2* shows stop points with associated thoughts and emotions.

*Table 2:* EAP stop points and their associated thoughts and emotions.

Stop	Emotion	Time	Thought
1	Anger	1.57	At Tom for making the situation so difficult.
2	Happy	3.00	Thinking about holidays with family
3	Fear	4.34	At the thought of daughter hurting herself.
4	Contempt	6.12	For the childishness of the situation.
5	Sad	7.38	For her children/the girls at not having grandparents.
6	Contempt	8.52	For the childishness of the situation.
7	Anger	11.47	At self for crying
8	Sad	12.49	Tom’s divorce
9	Anger	14.43	At Tom’s negativity
10	Contempt	16.17	Tom’s drunken behaviour
11	Anger	17.18	Tom’s inability to relate positively.
12	Contempt	19.06	About Tom’s inability to accept her husband
13	Anger	20.22	About always arguing with father
14	Anger	21.49	At having to deal with constant put-downs.
15	Contempt	22.44	For Tom’s childish behaviour.

As can be seen from *Table 3* below – showing the totals for each emotion in the video stimulus – the emotions in the video were primarily negative. This negativity in emotion is in line with work done to create the Movie for the Assessment of Social Cognition (Dzoihek, et al., 2006); but also takes into consideration the idea that recognition of smiles tends to have a ceiling effect (Gery, Miljkovitch, Berthoz, & Soussignan, 2009; Matsumoto & Hwang, 2011).

*Table 3:* Emotion count.

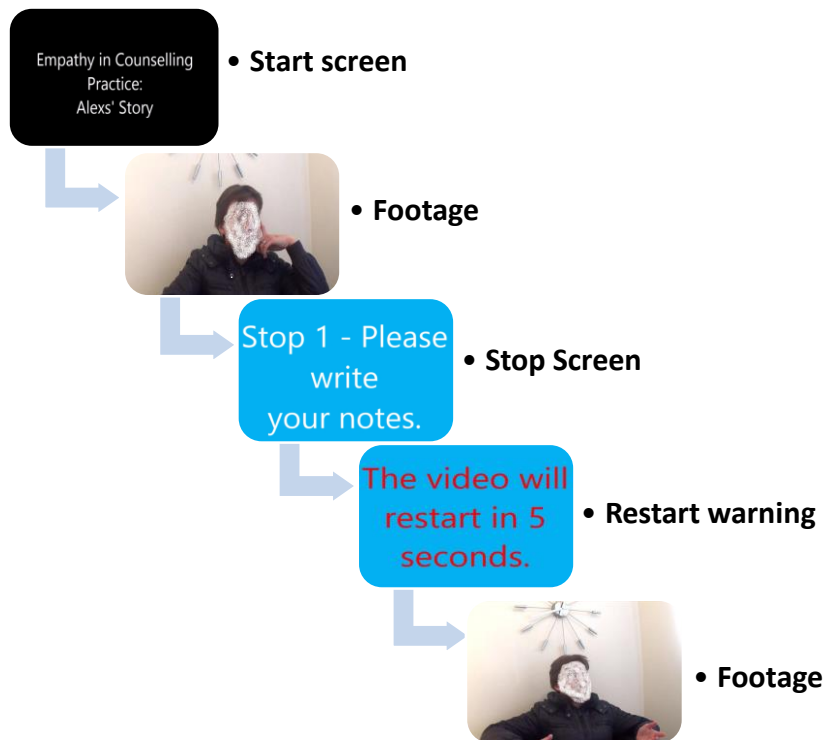
<b>Emotion</b>	<b>Count</b>
Anger	6
Contempt	5
Sad	2
Fear	1
Happy	1
<b>Total</b>	<b>15</b>

The main topic of the chosen film was an exploration by the client of the relationship between her and Tom<sup>4</sup>. Each stop point was edited into the film; all stop points were 17.5 seconds long. Participants used this time to fill out the multiple choice form recording their empathic inference answers. Thus, at the stop point the screen turned blue and told participants which stop number they were at, and asked them to “Please write your notes”. Five seconds before the footage was due to restart the writing

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<sup>4</sup> Pseudonym.

on the screen turned from white to red and warned participants that “The video will restart in 5 seconds”. Footage then restarted and continued until the next stop point, when again the screen changed, announcing the next stop point in the sequence. *Figure 4* is a schematic of the stop point screens and restart warnings.




*Figure 4:* schematic footage, stop point, and restart warnings.

### *Empathic Inference Form*

The original empathic accuracy paradigm calls for raters to independently assess whether participant responses match the clients’ response. However, in order to increase the objectivity of this measure, a multiple choice response format was used. Clients had chosen their emotions from a list of 7 basic emotions — the same list was used for participants. Participants were asked to tick the emotion they felt corresponded to what the client was feeling during the segment leading up to the stop point.



Equally, clients' thoughts were used as a single option in a list of 3 multiple choice answers. The multiple choice answer had been designed using guidelines for writing multiple choice questions, set out in taxonomy of multiple choice writing (Haladyna & Downing, 1989a; 1989b) and a more recent review of the utility of this taxonomy (Haladyna, Downing, & Rodriguez, 2002). Again, the pilot study showed that this multiple choice format did not materially increase the participants' achieved score (see *Discussion* for more on this point). *Figure 5* shows the first section of this form, depicting the possible answers for the first two of the 15 stop points; the rest of the empathic inference form will not be published for confidentiality reasons.



**University of  
Roehampton**  
London

Date: \_\_\_\_\_

Participant Number: \_\_\_\_\_

**B:**
**P:**
**IM:**

Stop			
<b>1</b>	<b>She was feeling:</b>	<b>Contempt</b>	<b>Anger</b>
		<b>Surprise</b>	<b>Fear</b>
	<b>She was thinking:</b>	<b>Sad</b>	<b>Disgust</b>
		<b>Happy</b>	
		<div style="border-bottom: 1px solid black; padding-bottom: 2px;">About Tom missing the wedding reception</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">About the effect of the situation upon her husband</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">About Tom for making the family situation difficult</div>	
<b>2</b>	<b>She was feeling:</b>	<b>Contempt</b>	<b>Anger</b>
		<b>Surprise</b>	<b>Fear</b>
	<b>She was thinking:</b>	<b>Sad</b>	<b>Disgust</b>
		<b>Happy</b>	
		<div style="border-bottom: 1px solid black; padding-bottom: 2px;">About fun holidays with the family</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">About the tension between her and Tom</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">About going to Spain not being a holiday</div>	

*Figure 5:* Empathic inference multiple choice answer form.

### *Scoring*

The empathic accuracy scoring procedure was modified from the original to allow for the multiple choice format of the test. The original scoring scheme is as follows; participants are awarded zero points by the rater where their answer contained

“essentially different content” (Ickes, 2003, p. 73) from the answers recorded by the other dyad member. Participants are awarded a single point where their answer contains “similar, but not the same content” (Ickes, 2003, p. 73), and two points where their answer contains “essentially the same content” (Ickes, 2003, p. 73) as the other dyad member. In the current scheme the content is fixed – due to the multiple choice format – but the scheme still relies on the idea of how close the content is to what the client – rather than the other dyad member – has said. To do this, participants were awarded a single point if they got the thought or emotion of the client right, and another point if they got both the thought and the emotion right; zero was scored if neither thought or emotion was correct.

As the editing process had chosen those points at which the client had both a thought and an emotion recorded, there were a total of 30 points available – 15 for correct emotions identified, and 15 for correct thoughts identified. In order to gain an overall empathic accuracy score, all emotion and thought points were added to give a score out of 30.

#### *Micro Expression Training – eMETT*

The training tool chosen for this study was Paul Ekman’s METT programme. eMETT is designed specifically to train the user in how expressions of emotion appear on the face, and thus enhance the detection of micro-expressions of emotion.

eMETT shows the user video footage beginning with two faces in a neutral configuration, the subject at rest. Gradually the faces morph through the onset of an emotion to the emotion’s macroexpression; then morph back to neutral. This morphing is

slowed down so that the shift from neutral to full emotion takes place over seven seconds. Each face shows slightly different configurations of the emotion in question; commentary points out the salient elements of each configuration, and points out the differences in the configurations. The program also contains videos demonstrating commonly confused facial displays of emotion for example: fear and surprise, and the running commentary seeks to highlight and explain the differences in the emotions.

As well as these videos, the eMETT contains a pre-training (Benchmark), post-training and mid-training test of emotion display recognition. The training procedure is therefore: Benchmark (test); Training; Practice (Test); Review (further training videos); Improvement measure (test). *Figure 6* shows a screen shot of the program. A demonstration version of the METT program can be found at:

<http://www.paulekman.com/tools/training/emett30demo/training.php>.



*Figure 6:* screen shot of eMETT. Figure reproduced by permission of Paul Ekman Group LLC.

### *Reading Task – Treatment as Usual*

The traditional training method for empathy is reading and practice; therefore the second group was assigned a reading task; as in Matsumoto and Hwang (2011) this task was used as a control. Two articles were given: Goldberg's (2011) "The enduring presence of Heinz Kohut: Empathy and its vicissitudes"; and Rogers's (1975) article "Empathic: An unappreciated way of being". These articles were chosen as they focused on empathy, and were of sufficient length that even the quickest reader would not finish both before the allotted time was over.

### *QCAE – Questionnaire of Cognitive and Affective Empathy*

Whilst a number of empathy scales exist for measuring empathy – for example the Empathy Quotient (EQ) (Lawrence, Shaw, Baker, Baron-Cohen, & David, 2004), or the Interpersonal Reactivity Index (Davis M. , 1983) – this study used the QCAE (Reniers, Corcoran, Drake, Shryane, & Vollm, 2011) as the initial assay of empathy. This measure was chosen as it is a more recent measure, which importantly, is a composite of a number of previously validated empathy questionnaires (Reniers et al., 2011). As a composite measure, it was hoped it would garner much of the benefit of previous measures, whilst also being shorter than other questionnaires. As an example, the EQ is 60 items long, whereas the QCAE contains 31 items; using a shorter measure was again necessary to reduce the time the study required participants.

The QCAE's 31 questions are split into 5 subscales (Reniers et al., 2011), outlined in *Table 4* below. The QCAE was used to assess pre-existing differences in the self

reported empathic ability of the groups. *Appendix A* shows a copy of the QCAE and its marking scheme.

*Table 4: QCAE subscales and descriptions.*

Main measure	Subscale	Description
<b>Cognitive Empathy</b>	Perspective Taking	Items assay ability to view the world as other does.
	Online Simulation	Items designed to test the capacity to deliberately conjure the emotions of the other.
<b>Affective Empathy</b>	Emotion Contagion	Items assess to what extent the participant automatically takes on the emotions of the other.
	Proximal responsivity	Items question to what extent the participant will feel the urge to respond to the emotions of the other when they are present.
	Peripheral responsivity	Items ask to what extent the participant will respond to the emotions of the other when they are not present.

## Results

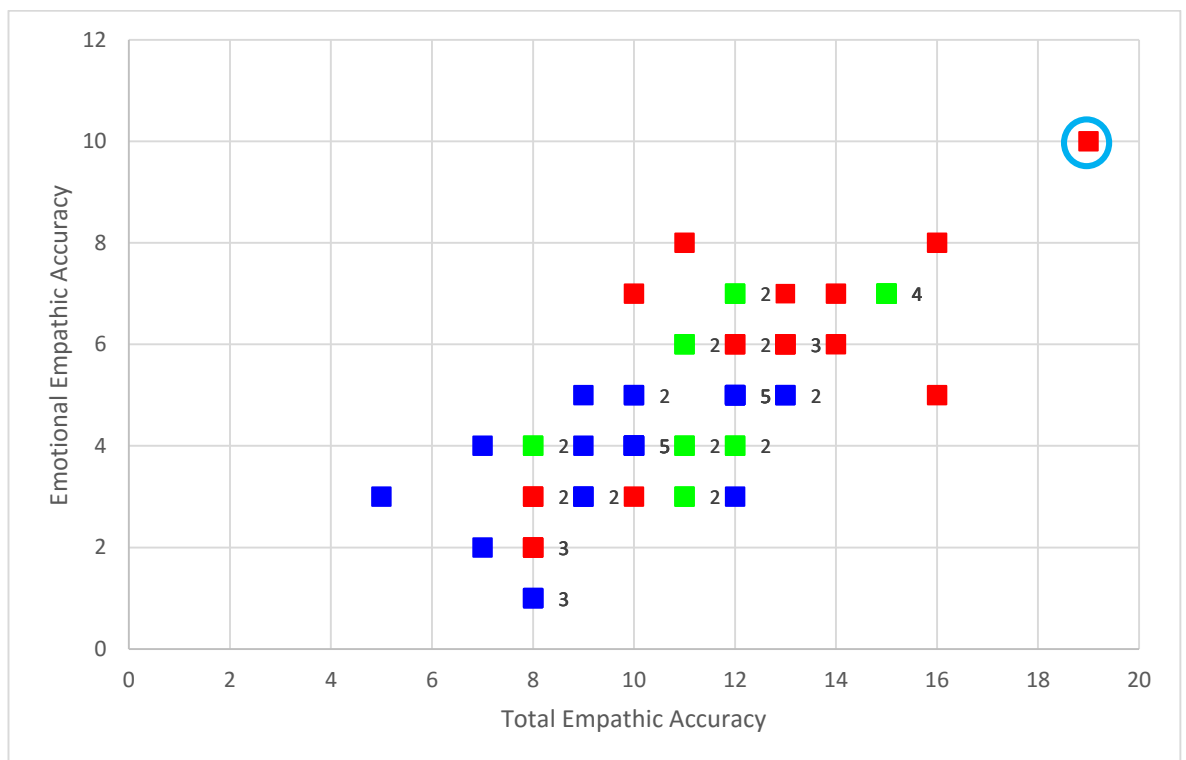
### *Preliminary analyses*

Before conducting statistical analyses it was necessary to assess the distribution of the key variables for their suitability for such tests. To assess whether the distribution of the sample is normal, the commonly used Shapiro-Wilkinson test was used, in conjunction with measurements of skew and Kurtosis. Below the outcomes of tests used to assess the shape of the distribution of the results for the key variables are presented.

H1 assess the total empathic accuracy score, scores for total empathic accuracy did not differ significantly from normal,  $D(60) = 0.97$ ,  $p = 0.13$ . H2 focuses on the emotional component of the empathic accuracy test, scores from which do not differ significantly from normal,  $D(60) = 0.97$ ,  $p = 0.10$ . H3 looks at change within the eMETT training group,  $D(30) = 0.93$ ,  $p = 0.04$ ; scores from which differ significantly from a normal distribution. However, the result is marginal; moreover it is obtained from a low powered sample with Skewness ( $S = -0.64$ ) and Kurtosis ( $K = -0.57$ ). Age in our sample is similarly distributed, to wit it has both a distribution significantly different from normal,  $D(60) = 0.93$ ,  $p = 0.00$ , with Skewness ( $S = -0.73$ ) and Kurtosis ( $K = -0.39$ ). As Skewness and Kurtosis for these latter two variables is within the acceptable range of  $-2$  to  $+2$  (Brown, 1997), we may proceed with parametric statistical analysis for all variables.

As part of the preliminary analyses, we also looked at the prevalence of outliers. “Eyeballing” data is the traditional method of data analysis (Osborne & Overbay, 2004). Eyeballing this data might suggest a single outlier present in the data; this data point is circled in black on the scatter plot in *Figure 7* below. Leys, Ley, Klein, Bernard, and Licata

(2013) recommend we apply to the data a more data based technique for outlier exclusion; the absolute deviation around the median. This method of outlier removal is not mean dependent and as such is a better outlier removal technique for mean based data (Leys, Ley, Klein, Bernard, & Licata, 2013). Whilst eyeballing may suggest removal of the circled data point in *Figure 7*, the absolute deviation around the median ( $Md = 11$ ) requires we exclude empathic accuracy data points of 19.90 and above. Such an outlier exclusion criteria results in not excluding the circled data point; this point will therefore remain in the data set during statistical analysis.



*Figure 7:* scatter plot showing emotional empathic accuracy and total empathic accuracy. Blue Squares: Reading group; Red Square: eMETT group; Green Square: Overlapping data point; numbers show how many data points overlap.

### Baseline Characteristics

Independent samples *t*-tests were conducted to test for differences in the baseline characteristics of the assigned groups. There were no significant differences in practice years between the eMETT group ( $M = 5.75$ ,  $SD = 6.27$ ) and reading group ( $M = 7.42$ ,  $SD = 9.37$ ),  $t(58) = 0.81$ ,  $p = 0.42$ . Nor were significant differences found in QCAE total score, eMETT group ( $M = 95.8$ ,  $SD = 7.59$ ) and reading group ( $M = 92.5$ ,  $SD = 7.59$ ),  $t(58) = 1.17$ ,  $p = 0.25$ . Neither were any differences found in the QCAE subscales, between eMETT group QCAE cognitive empathy ( $M = 61.5$ ,  $SD = 6.58$ ) and reading group QCAE cognitive empathy ( $M = 60.8$ ,  $SD = 12.9$ ),  $t(58) = 0.25$ ,  $p = 0.80$ ; or between the affective empathy QCAE score, eMETT group ( $M = 34.3$ ,  $SD = 4.54$ ) versus the reading group ( $M = 31.7$ ,  $SD = 7.71$ ),  $t(58) = 1.63$ ,  $p = 0.10$ . Table 5 shows group means, standard deviations, effect sizes and significance values across the QCAE scores.

Table 5: Participant QCAE scores at baseline.

		QCAE Score				
	Affective	<i>p</i>	Cognitive	<i>p</i>	Total	<i>p</i>
Reading	31.7 (7.71)		60.8 (12.9)		92.5 (7.59)	
		0.10		0.80		0.25
eMETT	34.3 (4.54)		61.5 (6.58)		95.8 (7.59)	

*Note: All values are means (SD) unless otherwise stated. QCAE: Questionnaire of Cognitive and Affective Empathy.*



*Table 5* also reveals that whilst not statistically significant, there is an initial difference between QCAE scores, one investigated further using an ANCOVA showing no main effect of QCAE affective score  $F(1,55) = 1.94$   $p = 0.60$   $\eta_p^2 = 0.01$ ; or QCAE cognitive score  $F(1, 55) = 0.88$   $p = 0.14$   $\eta_p^2 = 0.02$  on empathic accuracy.

*Table 6* below is a breakdown of the prevalence of practice models within each group. A chi-square analysis was carried out to assess whether the practice models used by the therapists assigned to each group differed systematically. There were no significant difference in practice models used  $\chi^2(6, N = 60) = 11.2$   $p = 0.08$ .

*Table 6:* Participant practice models by group.

		Group			
		Reading		eMETT	
Therapy Practice Model	Person Centred	23	(7)	30	(9)
	CBT	10	(3)	13	(4)
	Psychodynamic	17	(5)	37	(11)
	Integrative	37	(11)	10	(3)
	Transaction Analysis	0	(0)	7	(2)
	Systemic	10	(3)	3	(1)
	Mindfulness Based	3	(1)	0	(0)
	<b>Total</b>	100	(30)	100	(30)
<i>Note: Percentages shown (number of participants).</i>					

Although the chi-square analysis above revealed no significant differences, the result approached significance, and therefore a further single factor analysis of variance was carried out to ascertain whether therapy practice model had any effect on empathy score, either QCAE or EAP. The test carried out was Person-centred x CBT x Psychodynamic x Integrative; Transaction Analysis, Systemic and Mindfulness Based therapy were not included in the analysis as there were insufficient numbers of therapists in these groups to provide fully reliable mean statistics and Bonferroni post-hoc tests. Analysis of variance showed no main effect of therapy practice model on QCAE-Cognitive  $F(3, 49) = 0.34$   $p = 0.80$ ; QCAE-Affective  $F(3, 49) = 0.10$   $p = 0.96$ ; EA-Cognitive  $F(3, 49) = 0.52$   $p = 0.67$ ; EA-Emotion  $F(3, 49) = 0.68$   $p = 0.57$ .

*Table 7: Participant practice models by empathic measure.*

		Empathy Measure			
		QCAE	QCAE	EA	EA
		Cognitive	Affective	Cognitive	Emotion
<b>Therapy Practice Model</b>	Person Centred	60.25	32.56	4.88	6.19
	CBT	57.71	33.14	4.57	7.00
	Psychodynamic	62.31	33.75	4.38	5.94
	Integrative	61.43	32.57	4.79	6.21
	Transaction Analysis	61.00	32.00	4.50	7.00
	Systemic	61.50	32.50	5.50	7.25
	Mindfulness Based	75.00	37.00	4.00	8.00

The age of the groups was the single variable which showed systematic variation; a *t*-test of the ages of psychotherapists assigned to each group revealed a significant difference. The average age of the eMETT group ( $M = 37.8.7$ ,  $SD = 11.5$ ) was significantly lower relative than the reading group ( $M = 44.6$ ,  $SD = 12.6$ ),  $t(58) = 2.18$ ,  $p = 0.03$ .

As there was a significant difference in the ages of the groups, an ANCOVA was carried out to test for the effect of age on empathic accuracy score; this revealed no main effect of age on empathic accuracy score,  $F(1, 55) = 2.20$ ,  $p = 0.14$ ,  $\eta_p^2 = 0.04$ .

### *Hypothesis Testing*

#### *Hypothesis 1 (H1)*

Do participants in the experimental condition achieve a better overall empathic accuracy score on the EAP, compared to those allocated to the control condition?

The effect of eMETT training on empathy was tested using an independent samples *t*-test, that indicated psychotherapists in the eMETT group ( $M = 11.7$ ,  $SD = 2.78$ ) showed greater empathic accuracy post intervention than those in the reading group ( $M = 10.4$ ,  $SD = 2.37$ ),  $t(58) = 2.05$ ,  $p = 0.02$ ,  $d = 0.55$ . The effect size shown is a medium effect size (Stangor, 2007).

#### *Hypothesis 2 (H2)*

Will participants in the experimental condition achieve a better emotional empathic accuracy score on the EAP, compared to those allocated to the control condition?

A further *t*-test was carried out to see if the difference shown in H1 loaded on the thought or emotion elements of the empathic accuracy score. A significant difference was recorded on the emotions score, the eMETT group ( $M = 5.20$ ,  $SD = 2.09$ ) showed greater empathic accuracy for emotion recognition than those assigned to the reading group ( $M = 4.20$ ,  $SD = 1.58$ ),  $t(58) = 2.08$ ,  $p = 0.03$ ,  $d = 0.55$ . There was no difference on the thought recognition score, where the eMETT group ( $M = 6.53$ ,  $SD = 1.70$ ) showed equal empathic accuracy to those assigned to the reading group ( $M = 6.17$ ,  $SD = 1.64$ ),  $t(58) = 0.85$ ,  $p = 0.96$ . Table 8 summarises the differences found in both the total empathic accuracy score, and the scores on the thought and emotion subscales.

Table 8: Participant empathic accuracy scores.

Empathic Accuracy Score				
	Emotions $p$	Thoughts $p$	Total	$p$
Reading	4.20 (1.58)	6.17 (1.64)	10.4 (2.37)	
	0.03	0.96		0.02
eMETT	5.20 (2.09)	6.53 (1.70)	11.7 (2.78)	

*Note: All values are means (SD) unless otherwise stated.*

### Hypothesis 3 (H3)

Can participants in the eMETT group improve their ability to recognise facial expressions of emotion? This improvement indexed by an increase in participant eMETT score, from pre to post-test.

The hypothesised effect of eMETT training on emotion recognition was tested and an independent samples *t*-test was conducted, showing a significant improvement in emotion recognition of Ekman faces from before the eMETT training ( $M = 61.5$ ,  $SD = 2.99$ ) to after ( $M = 76.3$ ,  $SD = 2.99$ ),  $t(29) = 20.51$ ,  $p < 0.001$ ,  $d = 0.93$ .

#### *Hypothesis 4 (H4)*

Is there a positive correlation between emotional empathic accuracy score on the EAP and the post-training eMETT score for participants in the experimental group?

Planned correlational analyses were carried out between empathic accuracy scores and QCAE scores. QCAE and empathic accuracy were not significantly correlated  $r(58) = -0.043$ ,  $p = 0.74$ . QCAE affective and empathic accuracy emotion were not correlated  $r(58) = -0.03$ ,  $p = 0.80$ ; neither was QCAE cognitive and empathic accuracy thought  $r(58) = -0.09$ ,  $p = 0.49$ .

Further correlational analysis was carried out between the increase in eMETT score from training, and empathic accuracy total score, though the two variables were not significantly correlated  $r(28) = 0.21$ ,  $p = 0.26$ . Neither were the eMETT post-training score nor the eMETT increase correlated with QCAE score  $r(28) = 0.27$ ,  $p = 0.15$  and  $r(28) = 0.21$ ,  $p = 0.26$  respectively.

## Discussion

### *The Current Study's Findings*

The results of the present study, replicated previous findings showing that eMETT training is capable of improving the recognition of facial expression of emotion (Hurley, 2012; Matsumoto & Hwang, 2011). This replication was in a sample of psychotherapy professionals, whereas previous findings concerned other populations. H3 asked whether participants in the eMETT group would improve their ability to recognise facial expressions of emotion; participants in the eMETT group did significantly improve their facial expression of emotion recognition.

The current study provides some evidence that empathic accuracy may be improved by eMETT training, though the lack of a correlation between eMETT and EAP score means that this can only be a tentative conclusion. To put this another way, whilst the null hypothesis for H1 can be rejected, replication is required before this statement is relied upon; see below for further discussion of this point.

H2 asked will participants in the experimental condition achieve a better emotional empathic accuracy score on the EAP, compared to those allocated to the Reading-TAU condition. eMETT training was shown to increase emotional empathy, rather than cognitive empathy, thus the expected difference in the emotional subscale of the EAP score was found. There was no significant positive correlation found between emotional empathic accuracy score on the EAP and the eMETT score for participants in the experimental group, providing no support for H4.

The hypotheses most central to this study were H1 and 2: that the EAP score would be higher for those receiving eMETT training, and that the difference in this EAP score would be shown on the emotional subscale of this score. Results from this study showed a statistical difference then, in the predicted direction, but as Huff (1954) pithily points out: “a difference is a difference only if it makes a difference”. This is to say a statistically significant difference is one thing, a clinically relevant difference quite another. Could this statically significant difference change the way practitioners work? A number of lines of argument suggest that there is clinical relevance to the current finding.

Beginning with the training itself, this training – eMETT – represents a targeted intervention, one which was designed with clinical relevance in mind. Hassenstab et al (2007) showed that whilst psychotherapists were more cognitively empathic than non psychotherapist controls, this was not the case with emotional empathy. The finding from Hassenstab et al (2007) was bolstered, by the finding that psychotherapists were no better than controls at recognising facial expressions of emotion. The results from the current study, target both of these findings, and perhaps go some way to correcting them. The eMETT is targetted at the emotion recognition that Hassenstab et al (2007) showed that psychotherapists could further advance, and as an intervention it improves emotional empathic accuracy. Tentatively then, it can be said the eMETT may help psychotherapists improve their empathic accuracy, and boost their emotional empathy. Further research would be needed to enable such claims to be made, as the measures, and methods, in both the current study and Hassenstab et al’s (2007) vary widely, but the current findings are promising. This promise must be tempered by the fact that the difference in empathic accuracy was shown within the EAP, which is not real life therapy.

In Reiss et al (2012), patients of the doctors trained were asked to rate the doctors' empathy before and after their empathy training. If eMETT training of psychotherapists were shown to have an effect on psychotherapy clients using this sort of outcome measure, there would be a much firmer foundation for making claims about the effectiveness of this training. Such an in vivo trial of the eMETT is a crucial future research direction.

The evidence provided by this study, especially that relating to H1 and H2, is perhaps further evidence of the importance of the face in the empathic process. This is clearly not the first evidence of this idea – hence the importance of the face in empathy research (Regenbogen & Habel, 2015) – but the current study suggests a more practical application of this research evidence. As pointed out in the introduction, the face and body have a communicative function on which there is not necessarily enough of a focus in psychotherapy training courses across the UK. These channels of communication are of greater focus in security service training (Navarro & Karlins, 2008), despite the fact that the research into these areas is carried out by psychologists themselves. This research may make a case for a reappraisal of psychotherapy training methods, a case lent further weight by the findings of Regenbogen et al (2012). The single communication channel knock out that had the greatest deleterious effect on empathic communication was the face (Regenbogen, et al., 2012). Prosody and speech content reduced emotion communication when they were “knocked out”, but not to the extent the face did. The centrality of the face then in empathic processing begs the question: should some form of training in facial expression of emotion be part of psychotherapy training courses? Clearly



the current finding, and the findings of Regenbogen et al (2012), do not make a sufficient case for overhauling course syllabi, but they certainly make a case for further research.

Forty minutes of training showing a medium effect size, is perhaps concerning in its rapidity, and this is grounds for scepticism. However, this rapidity may be understandable when considering empathy involves multi-modal communication, with cross-modal augmentation (Golan & Baron-Cohen, 2006). Evidence that speech perception in particular is improved by the perception of facial expressions (Kong & Edwards, 2011) is of special interest here. Might better speech perception enhance understanding of both its emotional nuance, and content; or to use the terminology of Regenbogen et al (2012), “prosody” and “speech content”. Thus, training one empathy channel should enrich the others; with psychotherapists already having a cognitive empathic advantage (Hassenstab, et al., 2007), it is quite possible that a small amount of training has effects beyond what might happen in non-psychotherapy controls. An interesting piece of research might investigate such cross-modal augmentation, and study whether eMETT training – with an instructor perhaps – had a greater effect on psychotherapists, than non-psychotherapy controls. This putative research might also look at whether the increase in emotional empathy began to boost cognitive empathy further over time; it is certainly plausible that greater emotional perception will lead to greater emotional processing.

### *Clinical Relevance*

An important difference exists between statistical significance, and clinical relevance, both are related to the development of knowledge; but the former has been

the focus thus far in this discussion, we now turn to the latter. Beginning with the literature reviewed, a blend was made of more phenomenological definitions of empathy with more postivistic, realist definitions. This definitional mix was inspired by what the author saw as the potential for synergy, centred around the concept of resonance. Resonance has a place in the phenomenological literature (Barrett-Lennard, 1993; Clarke, 2010); however, as argued previously, this term is indistinct. By looking at resonance through the lens of both cognitive psychology and neuroscience, it can be seen as founded in the mirror neuron system. Founding the term resonance in lower levels of explanation – the sub-personal and the functional – allows a deeper understanding of the term resonance. In turn, this understanding gives rise to the idea that the face is critically important in eliciting resonance. This idea does not just break literature boundaries – one possible way to contribute to knowledge in a field – but reveals a new training method. In the case of this study, this training has been shown to increase empathic accuracy, and whilst replication of this result is necessary, it offers multiple avenues of extension, some outlined above.

The definitional marriage above, also reveals within the literature key elements of any model of empathy, without which a model will likely fail to fully explain the available knowledge. The empathy quartet is a set of domains that if present in a model, are at least an indicator that the model is capable of explaining the range of empathy phenomena. Relatedly, a set of professional implications also became apparent when reviewing the literature; this provides a summary of how professional empathy is different to personal empathy. In terms of differentiation, professional empathy must be better informed, and more imaginative in its application; it must also remain emotionally

boundaried, be sustained over a number of time frames, and be explicitly communicated. These differences delineate how a model of professional empathy remains grounded in the personal empathy capacity, whilst critically, separating itself from this capacity. They also point to those areas facial expression training might fillip, helping the professional to enhance their empathy.

The PAM structuring of empathy points to the idea that cognitive and emotional empathy can both be seen to be either driven by, or developed through, the use of the Motor empathy system. This system is perception based, and enhancing emotional perception will therefore feed these domains, a claim that requires further research, but for which the current study provides some first tentative evidence. For the counsellor, this means enhanced resonance is achievable; more specifically, their empathy may become better boundaried, more informed, and therefore, perhaps capable of more imaginative application. Emotional boundaries may be permeable, at least from the perspective of relational models of psychotherapy, but having an understanding of where certain feelings may be resonating from, may help a counsellor both maintain their own boundaries, whilst also seeking to inform the clients. Being able to reflect upon emotions that may have been perceived clearer, will allow counsellors to better inform their empathy, and their therapeutic interventions. Reflection on emotions, especially where there is a nuanced capacity to track emotions, may lead the counsellor to more imaginative ways of grasping clients' felt level experience.

### *Refining the EAP*

A further contribution to the knowledge that this study has made, comes from its use, and refinement, of the EAP. Ickes' (2001, 2003) paradigm, seems an ideal format for counselling psychology assessment and training; relying as it does, on what the client experiences in a session. EAP is a methodology that can encompass phenomenological experience, whilst at the same time give empirical objectivity. This objectivity has been further enhanced by the modification made in this study; specifically, converting the answer format into multiple choice questions (MCQ). MCQs however, not only make the EAP more objective, but may also serve to answer Elliot et al's (2011) critique of the paradigm: that it is "time-consuming". The original EAP requires a number of raters to spend time judging the answer likeness of participant responses, with the client's original responses. MCQ can be marked by a single researcher rather than multiple raters, reducing the number of people needed; and marking questions correct or incorrect, is considerably less time consuming than making textual judgements. The MCQ refinement might be further enhanced by increasing the number of options on the multiple choice form, though this may not substantially effect test efficacy (see Haladyna, Downing and Rodriguez (2002) for further discussion of this point). A concern when using MCQ might be that they lead to more accurate responses, people have a one in three chance of getting the answer right in the current test format. This chance probably compares favourably with the more freestyle responses on the original EAP, such free writing is likely to create much greater variance in the sample. Though scores in the current study are not really comparable with previous studies, the current study's EAP percentage scores are not significantly different to those previously reported (Ickes, 2003). Again, further empirical testing would be required; this could compare average totals achieved

on a single EAP test, one group assayed by rater judgements, and another attaining MCQ scores.

### *The Need for a Psychotherapy Specific Framework*

Any contribution to knowledge that this study makes will be partially understood through the empathic model outlined above. Empathy is given a fillip by eMETT training; but, to extend our understanding how this happens, and if this training might be of further utility, a model of practical application is needed. By way of analogy, we can examine the use of facial expression of emotion in the deception detection literature. This is predicated on the understanding that emotions do not occur in unison with what is expressed, and interpreting this disharmony is a critical ingredient in the detective process (Navarro & Karllins, 2008; Porter & ten Brinke, 2010). “Reading faces” through a deception detection framework, requires an understanding of the relationship between: the questions of the interviewer; the emotional expression elicited; and what these emotions may indicate outside of the speech content of the person being questioned (Navarro & Karllins, 2008). Placing the facial expression of affect training in such a framework, increases its utility (Navarro & Karllins, 2008). Such a framework for psychotherapeutic understanding of emotion, would potentially increase the clinical relevance of these findings to psychotherapists.

The framework used by Navarro and Karllins (2008) is aimed at the use of microexpressions for deception detection. This framework works on the basis of establishing a baseline of the interviewees’ body language – or facial expression – and then working out how things said by the interrogator cause this to alter. In a

psychotherapy setting this would be inappropriate, regardless of the more aggressive vocabulary of the deception detection decision framework. Firstly, whilst the “baseline” of a client, and any shifts from it, would be a possible strategy for making empathic inferences, this is too constrictive for a psychotherapy setting. In law enforcement, insurance claims, and legal disputes, it is often the case that deception is being actively pursued by one side, and actively searched for by the other (ten Brinke, et al., 2012); in psychotherapy, this is not the case. Whilst it is certainly true that some clients may wish to keep information concealed – at least in the initial stages of the relationship, as per the *Introduction* to the current study, – it is not for the psychotherapist to “search” for this. Psychotherapy is not designed to uncover falsehood, but rather, to explore meaning and generate understanding. Moreover, the “stakes” (Porter & ten Brinke, 2010, p. 57) in psychotherapy, are generally not incarceration or fines – as in deception detection, – but rather wellbeing and self understanding. The variation in “stakes” between detective work, and therapy work is a factor that will affect the congruence between clients’ verbal expression and facial expressions. These latter points require exploration; they also point to the need for the development of a psychotherapy specific framework for the practical application of facially expressed affect in client work.

### *Critical Analysis*

The current study has shown promising results, providing some grounds for further research, and interesting avenues for theoretical endeavour. However, a closer look at the baseline data reveals some important differences, which whilst not statistically significant, bear consideration. Beginning with H3, the lack of a correlation, in the experimental group, between emotional empathic accuracy score on the EAP, and eMETT

score, is pertinent. This correlation, if present, would suggest a link between an increasing eMETT score and increasing empathic accuracy. Whilst this link would not show causation, it would certainly bolster the other findings of this study. A replication of the current study, using a larger sample size, may produce such a correlation, or provide a source of further investigative avenues.

In terms of considering the baseline data, we can begin by looking at the QCAE score. The affective empathy score of the QCAE, is higher in the eMETT group. This bias whilst not significant, does arguably cast some doubt upon the finding in H1. The experimental design relied somewhat heavily on there being no pre-existing differences in the groups. Convenience allocation may have skewed the make-up of the experimental groups; but it is important to note the QCAE affective measure, is not necessarily measuring the same faculty, or concept, as the EAP affective score. Though both these measures are clearly aimed at the same empathic trait, they measure slightly different markers. Moreover, the QCAE is a questionnaire, and subject to a number of biases, biases which may also relate to the variation in the therapeutic models used by the sample; a point elaborated below. Nonetheless, on the – operative – assumption that the QCAE, and EAP, measure the same human faculty, then we must conclude that there was a pre-existing bias toward the direction predicted by H1. There is grounds then to argue that replication is particularly important in the case of these results. This problem would arguably have been nullified by a before after design. Such a design could have measured empathic accuracy before training and after training, and it was the authors initial intention to use such a design, one of the reasons 3 videos were originally shot. However, this design would have required a greater number of participants, and a longer

time commitment of 85 minutes. On consideration, and advice, it was felt that such a length of time would make participant recruitment almost untenable. This was especially so, as the author's cohort – a potentially valuable source of participants – knew the hypothesis, and were therefore excluded from recruitment. The reality of the research process was that recruitment was the most difficult element, and as such, it would seem the study's eventual design was prudent. Future replications of this result should perhaps revert to the original before after design, which would remove the above outlined element of doubt.

Another anomaly in baseline characteristics is the division of therapy practice models within the sample. Again, although not significant, the chi-square analysis result is marginal, though there are some obvious group differences. Most glaringly, there are almost 4 times as many Integrative Practitioners in the Reading-TAU group, as in the eMETT group. Moreover, there are over double the number of Psychodynamic Practitioners in the eMETT group, as compared to the Reading-TAU group. These differences are potentially important, they somewhat undermine the findings of this study, as they may suggest different reactions to the video stimuli. How a participant perceived the client in the interaction may well have been altered by their model of practice. Such alterations could well have had an impact on the results, as the differences in group make up, whilst not statistically significant, are nonetheless, large; large enough perhaps to skew the main effect reported here.

One of the factors that may have helped skew the therapy practice model distribution within the sample, was the preference of some participants not to have eMETT training. Regrettably no records of these participants were kept, but a minority of



participants specifically requested not to be given the training. This group, in the main, objected to the idea that of basic emotions – that the training is based on – and did not want their therapeutic practice effected or influenced by the training. These participants were then re-allocated to the Reading-TAU group, one advantage of convenience allocation, but also a demonstration of how this might lead to anomalous findings. Again, future replications should be aware of this as a possibility and either record these participants for separate analysis, or apply strict randomisation.

The only statistically significant difference in the baseline characteristics of our samples was their age, the eMETT group being on average younger than the Reading-TAU group. Whilst there is certainly evidence that aging has deleterious effect on memory, these effects are more often observed in those over the age of 50 (Light, Prull, LaVoie, & Healy, 2000). The current sample contained 11 participants over the age of 50, 6 in the Reading-TAU group, and 5 in the eMETT group; any age related memory effects then are evenly distributed, and unlikely to have an effect on the results. Moreover, evidence suggests that face learning peaks 10 years after name recognition – at 30-34 year of age rather than 23-24 years of age (Germine, Duchaine, & Nakayama, 2010). Name recognition would traditionally be considered semantic memory (Dilkina, McClelland, & Plaut, 2008; Eysenck & Keane, 2005), the memory often tested in studies showing decline with age, whereas face recognition, is a separate domain. It is debatable whether face recognition, and facial expression recognition are in fact the same phenomenon; nonetheless Germine, Duchaine and Nakayama's (2010) finding casts further doubt on the idea that the current results may be purely accounted for by an age disparity.

The findings in Hassenstab et al (2007) further elucidate the point about the age of participants. Hassenstab et al's (2007) experimental groups were matched for age; however, the psychotherapist group was younger, not significantly so, but nonetheless, there was no inter-group difference in facial expression recognition. Similarly then here, a case can be made that this age difference is unimportant; indeed, the age differential may reinforce the importance of these findings. Whilst not statistically significant, there was also difference in the practice years of our sample – the eMETT group having less practice years 5.75 vs 7.42 than the Reading-TAU group. A younger group of practitioners, with less practice years, should arguably be less empathically accurate than a group of more experienced, older professionals; that 40 minutes of training may reverse this, should be investigated.

#### *Avenues for Further Refinement*

Notwithstanding the need for further research of the training effect shown in this study, consideration can be given to how this intervention might be enhanced. Forty minutes of eMETT training as an empathy intervention can be compared with: three months of empathy training completed in Barone et al (2005), and the three hours of training spread over three months used in Riess et al (2012). This study used the eMETT once, for 40 minutes; it is designed to be used for 75 minutes, and on more than one occasion, the effects of the eMETT are incremental (Hurley, 2012). Hurley (2012) used three different training interventions, every two weeks, comparing their efficacy in training facial expression of emotion. The self-led training group, used eMETT as this study did – i.e. participants simply used the eMETT according to the instructions provided within the training package. This group showed a statistically significant increase in

microexpression recognition ability for the first two training periods, leading to a 25% increase in microexpression recognition scores (Hurley, 2012). It is open to question then whether using more – and longer – iterations of the eMETT training, might augment the effectiveness of this intervention, further enhancing empathic accuracy. Further analysis of Hurley's (2012) results, is indicative of directions for future research into this training.

Hurley's (2012) study showed that eMETT self-led training, was less effective than eMETT plus instruction from a teacher. With eMETT plus teacher, the incremental changes in microexpression recognition continued for the entire 6 week training period, and ended in a 30% increase in microexpression recognition. Self-led eMETT participants, saw a decrement in microexpression recognition scores at the third test period, reducing their accuracy in microexpression detection to 74.57%. Whilst still a significant improvement over the whole period, this result compares unfavourably to eMETT plus teacher. This latter group achieved an overall accuracy rate of 88.31%. Perhaps complementing the eMETT with a teacher/trainer, could develop the effects shown in this study. This point is lent further weight, when considering the difference between the experimental protocol and a training procedure; a point we turn to now.

This study was based on an experiment designed to minimise the links between its various elements; no explanation was given as to why participants completed the tasks they were asked to do, and no suggestion was made as to what effect this might have on their performance on the EAP. In a training setting, delegates – rather than participants – would be told that reading the text, or completing the eMETT, would enhance their empathic accuracy. These delegates would understand exactly what the purpose of their participation was, and would probably be motivated to concentrate on the tasks at hand;

potentially further enhancing eMETT scores, and perhaps, EAP scores. Seemingly then, a blend of motivation, eMETT and teacher, and perhaps an “Emotional Accuracy Framework”, would create a better empathy training intervention. What is clear, is that the optimal training time, frequency, and framework, are very far from being established. Again, further research would be needed to test varying training regimens for their efficacy, and equally, their effect on empathic accuracy: a very different concept to emotion recognition.

One further point garnered from Hurley’s (2012) work, is one that may undermine the findings in the present study. One of the control conditions was a motivational speech based on the work of Paul Ekman. This speech was made to a group of participants who showed a statistically significant increase in emotion recognition accuracy. Another control condition – the exposure control – simply showed participants Ekman faces, without training. This control condition also improved their recognition accuracy by a statistically significant amount. The control condition in the current experiment received reading on empathy, but this did not contain any facial stimuli; this condition therefore may have not been cued in the same way the eMETT condition was. A further control, exposing participants to Ekman faces, would have improved the validity of these findings. This condition was considered as part of the original design, but was not feasible. Moreover, the idea that simple cueing to look at the face more improves emotion recognition, and subsequently empathy, is still a clarion call to therapists to assess the way they empathise, and what their focus in a session is.

Although the current study refined the EA methodology somewhat, there is clearly room for further improvement, a fact that became apparent during testing. One facet of

the EAP response form that nearly all participants feedback about, was that they were being asked to choose a single emotion from a list in the MCQs. Participants felt that this was unrealistic, a point Ekman (2003b) makes when talking about his facial archetypes; to wit such archetypes do not occur regularly, in vivo expressions are more usually subtle blends, or suppressed. Whilst this is true, two points must be made; firstly, as discussed above, microexpression training is not just a matter of bald application, but will require guidance and practice; such direction was not part of this experiment. Secondly, single emotions were a homogenisation made to increase objectivity, but this comes at the cost of simplification. Clearly, any experimental method will come up against phenomenological limitations, but there are perhaps alternative schemes for MCQ answers. One possibility, would be to use a format that asks participants to choose two emotions on the response sheet, marking a “primary” and “secondary” emotion. Scoring this would require a more complex marking system, awarding points for correct answers and correct emotional order – primary, secondary – but this may go some way to answering participant feedback, and allow for more ecologically valid design.

### *Social Construction Analysis*

Having discussed the results, extensions, and limitations of this research, the final methodological consideration, must be completed, interrogating the reported findings of the experiment in the light of the surrounding social reality. Already alluded to in passing, are a number of areas of critique that social constructionists might take somewhat further. Ekman faces, a critical part of the eMETT, and thus a fundamental part of the current study are a case in point. Ekman himself (2003b) points out that these faces are extremes, and most emotion is a more subtle instance, or blend, of the basic emotions.

Social constructionist critique, would go further; a constructionist would argue that the idea of “basic emotions” is simply a westernised reified construct; carving up an emotional gamut; only one of a number of possible constructions of the way humans express themselves (Burr, 2003).

Hepburn & Jackson (2009) take a discursive psychology position on cross-cultural evidence of basic emotions, viewing such evidence as – if not fundamentally flawed, – then certainly to be viewed with caution. Such realist positions – Hepburn & Jackson (2009) would argue, – are not a study of the emergent property of a phenomenon, but rather see emotion as something that “*is*, and the problem is to look for *it* – emotion – cross-culturally” (2009, p. 183; their emphasis). Discursive psychology would study emotion – especially cross-culturally, – by seeking understanding of how emotion is used in society. Questions for such studies might include: what is the discourse surrounding the idea of emotion; how do people evoke and embody emotion; what use is made of emotion in ordinary interaction. Applying a discursive psychology analysis to the current study requires skepticism of the findings; based as they are, on the application of basic emotion training. Moreover, a discursive perspective on empathy, would also see this concept as derived from, and created through, discourse.

Moving away from discourse, and focusing more on the dominant construction of of human nature; an individualistic, western ideal, holds dominion in the society surrounding the research, and subsequently, will be present within the researcher. Empathy viewed this way, locates a set of phenomena in the brain; or seeks to understand a process in therapy. Even more relational models of empathy, still reify empathy, it is a thing that is to be pursued; contrast this with Gergen (2009), who posits

the idea of a relational mind. The relational mind is one not located in the individual, but rather informed by the performances of those in a social space. Emotions are not things that happen in a human; they are not an internal reality, displayed and expressed to others, but a performance of relational action. Gergen argues “it’s not that we *have* emotions, a thought, or a memory so much as we *do* them” (2009, p. 99); and whilst he does not explain how this might effect the concept of empathy, one can extrapolate this from his position quite easily. Empathy then is not a capacity that humans have, but simply a way of locating in the individual mind something that is actually a relational phenomena. If mind is relational, and emotions are actions, then “empathy” simply describes a decoding of action and applying a socially acceptable, and socially derived label. In a sense, “empathy” is not greatly different from speech recognition; however, this seeming simplification, has an important ramification. If empathy is socially created, not personally located; people will perform actions in a social environment, and these actions will be interpreted as “emotions”. These “emotions” are shared amongst the group; they do not get transmitted by one individual, and received by another, but rather co-created. From this perspective, we can see that the empathy fillip is certainly to be viewed with skepticism from a constructionist perspective. This does not nullify, or usurp the findings of this research, but cautions the researcher against zealotry, and begs humility. In the words of Nietzsche:

“Truth has never yet clung to the arm of an inflexible man”

(Nietzsche; 1883/4; p.79)

## Conclusion

This research set out to test an idea, an idea planted and germinated in my clinical work. This idea was fairly simple in a way: that the eMETT training I was doing was in some way helping me to “tune into” my clients. By reviewing the literature, this idea was both developed, and given foundation; “tune into” became empathy, and the relevant research surrounding eMETT was uncovered. The design and method of the experiment sought to provide validity, and importantly, to validate my experience. So I asked the question: if eMETT helps me, can it help my peers? In terms of validity, it seems that my idea might be valid, though more research is needed. The validation given to my experience of tuning into clients was not phenomenologically exact; however, I can choose to be influenced by positive findings, feeling good about corroboration of my experience. In the cold words of science: we reject the null hypothesis, but to me, I feel my “moment of inspiration” has been validated, I feel uplifted, happy. This happiness also imparts to me a sense of confidence, a sense bolstered by the feeling that I have done a job well, and gained insight into an inchoate phenomena. However, this confidence is tempered by the social constructionist position, I understand that the experiment I conducted is socially situated, and makes use of social constructions. Equally, even without a more generalised critique like social constructionism, there is clearly room for improvement within the current study’s method and design. So I take both experience and learning from my travels from research proposal to thesis submission, and a pointer away from hubris.



## Appendix A

### Questionnaire of Cognitive and Affective Empathy

People differ in the way they feel in different situations. Below you are presented with a number of characteristics that may or may not apply to you. Read each characteristic and indicate how much you agree or disagree with the item by ticking the appropriate box. Answer quickly and honestly.		Strongly agree	Slightly agree	Slightly disagree	Strongly disagree
1.	I sometimes find it difficult to see things from the 'other guy's' point of view.				
2.	I am usually objective when I watch a film or play, and I don't often get completely caught up in it.				
3.	I try to look at everybody's side of a disagreement before I make a decision.				
4.	I sometimes try to understand my friends better by imagining how things look from their perspective.				
5.	When I am upset at someone, I usually try to 'put myself in his shoes' for a while.				
6.	Before criticising somebody, I try to imagine how I would feel if I was in their place.				
7.	I often get emotionally involved with my friends' problems.				
8.	I am inclined to get nervous when others around me seem to be nervous.				
9.	People I am with have a strong influence on my mood.				
10.	It affects me very much when one of my friends seems upset.				
11.	I often get deeply involved with the feelings of a character in a film, play or novel.				
12.	I get very upset when I see someone cry.				
13.	I am happy when I am with a cheerful group and sad when the others are glum.				
14.	It worries me when others are worrying and panicky.				
15.	I can easily tell if someone else wants to enter a conversation.				
16.	I can pick up quickly if someone says one thing but means another.				
17.	It is hard for me to see why some things upset people so much.				
18.	I find it easy to put myself in somebody else's shoes.				
19.	I am good at predicting how someone will feel.				
20.	I am quick to spot when someone in a group is feeling awkward or uncomfortable.				
21.	Other people tell me I am good at understanding how they are feeling and what they are thinking.				
22.	I can easily tell if someone else is interested or bored with what I am saying.				
23.	Friends talk to me about their problems as they say that I am very understanding.				
24.	I can sense if I am intruding, even if the other person does not tell me.				
25.	I can easily work out what another person might want to talk about.				
26.	I can tell if someone is masking their true emotion.				
27.	I am good at predicting what someone will do.				
28.	I can usually appreciate the other person's viewpoint, even if I do not agree with it.				
29.	I usually stay emotionally detached when watching a film.				
30.	I always try to consider the other fellow's feelings before I do something.				
31.	Before I do something I try to consider how my friends will react to it.				

## Questionnaire of Cognitive and Affective Empathy: Marking Scheme

Empathy (sub)scale	Item numbers
Cognitive empathy	
Perspective taking	15 - 16 - 19 - 20 - 21 - 22 - 24 - 25 - 26 - 27
Online simulation	1 - 3 - 4 - 5 - 6 - 18 - 28 - 30 - 31
Affective empathy	
Emotion contagion	8 - 9 - 13 - 14
Proximal responsivity	7 - 10 - 12 - 23
Peripheral responsivity	2 - 11 - 17 - 29

The subscale items are summed to produce the scores on the subscales. The 2 cognitive subscales are summed to produce the score on the cognitive empathy scale and the 3 affective subscales are summed to produce the affective empathy score.

The items of the QCAE originate from the Interpersonal Reactivity Index (IRI; item numbers 1-6), Impulsiveness Venturesomeness Empathy Inventory (IVE; item number 7-14), Empathy Quotient (EQ; item numbers 15-29) and Hogan Empathy Scale (HES; item numbers 30-31).

## Appendix B

### Participant consent form



### ETHICS COMMITTEE PARTICIPANT CONSENT FORM

#### **Title of Research Project: Empathy in counselling practice.**

This project is being conducted as part of a PsychD qualification in Counselling Psychology. The project investigates the counsellors' felt experience and how training may effect this. There will be 60 participants randomly assigned to two separate groups. All participants will be asked to complete a basic demographic and work questionnaire, then participants will complete one of two different training exercises, each of 40 minutes duration. After training participants will be asked to watch a 23 minute video whilst completing an emotional recognition multiple choice test. Total time commitment is therefore 1 hour and 15 minutes. Training will involve a computer based task, or some reading material. Anonymised marking of the perception tests will be carried out by the experimenter. The test location is Whitelands Lodge, University of Roehampton.

Participation or withdrawal at anytime is entirely voluntary. Should students decline to participate, or subsequently withdraw, course marks will not be adversely affected. Although the video test is of a non-complicated counselling session, participants may feel some distress and therefore can choose to discontinue the test at this time.

#### **Investigator Contact Details:**

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#### **Consent Statement:**

I agree to take part in this research, and am aware that I am free to withdraw at any point without giving a reason, although if I do so I understand that my data might still be used in a collated form. I understand that the information I provide will be treated in confidence by the investigator and that my identity will be protected in the publication of any findings, and that data will be collected and processed in accordance with the Data Protection Act 1998 and with the University's Data Protection Policy.

Name .....

Signature .....

Date .....

Please note: if you have a concern about any aspect of your participation or any other queries please raise this with the investigator (or if the researcher is a student you can also contact the Director of Studies.) However, if you would like to contact an independent party please contact the Head of Department.

Director of Studies Contact Details	Head of Department Contact Details
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## References

- Apkarian, A., Baliki, M., & Geha, P. (2009). Towards a theory of chronic pain. *Progress in Neurobiology*, 87, 81-97.
- Aron, A., Aron, E., Tudor, M., & Nelson, G. (1991). Close relationships as including other in the self. *Journal of Personality and Social Psychology*, 60, 241-253.
- Avenanti, A., Buetti, D., Galati, G., & Aglioti, S. (2005). Transcranial magnetic stimulation highlights the sensorimotor side for pain. *Nature Neuroscience*, 8, 955-960.
- Banninger-Huber, E. (1992). Prototypical affective microsequences in psychotherapeutic interaction. *Psychotherapy Research*, 2, 291-306.
- Baron-Cohen, S., & Wheelwright, S. (2004). The empathy quotient: An investigation of adults with asperger syndrome or high functioning autism, and normal sex differences. *Journal of Autism and Developmental Disorders*, 34, 163-175.
- Barone, D., Hutchings, P., Kimmel, H., Traub, H., Cooper, J., & Marshall, C. (2005). Increasing empathic accuracy through practice and feedback in a clinical interview course. *Journal of Social and Clinical Psychology*, 24(2), 156-171.
- Barrett-Lennard, G. (1993). The phases and focus of empathy. *British Journal of Medical Psychology*, 66, 3-14.
- Batson, C., Batson, J., Slingsby, J., Harrell, K., Peekna, H., & Todd, R. (1991). Empathic joy and the empathy-altruism hypothesis. *Journal of Personality and Social Psychology*, 61, 413-426.
- Batson, C., Sager, K., Garst, E., Kang, M., Rubchinsky, K., & Dawson, K. (1997). Is empathy-induced helping due to self-other merging? *Journal of Personality and Social Psychology*, 73, 495-509.
- Batson, C., Turk, C., Shaw, L., & Klien, T. (1995). Information function of empathetic emotion learning that we value other's welfare. *Journal of Personality and Social Psychology*, 68, 300-313.
- Batson, D. (2009). These things called empathy: Eight related but distinct phenomena. In J. Decety, & W. Ickes (Eds.), *The social neuroscience of empathy* (pp. 3-13). Cambridge (MA): The MIT Press.
- Blair, R. (2005). Responding to the emotions of others: Dissociating forms of empathy through the study of typical and psychiatric populations. *Consciousness and Cognition*, 14, 698-718.
- Bor, R., & Watts, M. (2011). *The trainee handbook: A guide for counselling & psychotherapy trainees*. London: SAGE Publications Ltd.
- Braadbaart, L., de Grauw, H., Perrett, D., Waiter, G., & Williams, J. (2014). The shared neural basis of empathy and facial imitation accuracy. *Neuroimage*, 84, 367-375.
- Breedlove, M., Rosenzweig, M., & Watson, N. (2007). *Biological Psychology: an introduction to behavioral, cognitive, and clinical neuroscience* (5th ed.). Sunderland: Sinauer Associates Inc.

- Brown, J., Sheffield, D., Leary, M., & Robinson, M. (2003). Social Support and experimental pain. *Psychosomatic Medicine*, 65, 276–283.
- Buccino, G., Binkofski, F., Fink, G., Fadiga, L., Fogassi, L., Gallese, V., . . . Rizzolatti, G. (2001). Action observation activates premotor and parietal areas in somatotopic manner: An fMRI study. *European Journal of Neuroscience*, 13, 400-404.
- Buck, R. (1980). Nonverbal behavior and the theory of emotion: The facial feedback hypothesis. *Journal of Personality and Social Psychology*, 38, 811-824.
- Buie, D. (1981). Empathy: Its nature and limitations. *Journal of the American Psychoanalytic Association*, 29, 281-307.
- Burr, V. (2003). *Social Constructionism*. Hove: Routledge.
- Carlozzi, A., Bull, K., Stein, L., Ray, K., & Barnes, L. (2002). Empathy theory and practice: A survey of psychologists and counselors. *The Journal of Psychology*, 136, 161-170.
- Chartrand, T., & Bargh, J. (1999). The chameleon effect: The perception-behavior link and social interaction. *Journal of Personality and Social Psychology*, 76, 893-910.
- Cialdini, R., Brown, S., Lewis, B., Luce, C., & Neuberg, S. (1997). Reinterpreting the empathy-altruism relationship: when one into one equals oneness. *Journal of Personality and Social Psychology*, 73, 481-494.
- Clark, A. (2010). Empathy: An integral model in the counseling process. *Journal of Counseling and Development*, 88, 348-356.
- Code of Ethics and Conduct*. (2009). Leicester: Ethics Committee of the British Psychological Society.
- Colman, A. (2006). *Oxford Dictionary of Psychology* (2nd ed.). Oxford: Oxford University Press.
- Coltheart, M. (2006). What has functional neuroimaging told us about the mind so far? *Cortex*, 42, 323-331.
- Coltheart, M. (2006a). Perhaps functional neuroimaging has not told us anything about the mind so far? *Cortex*, 42, 422-427.
- Colvin, C., Vogt, D., & Ickes, W. (1997). Why do friends understand each other better than strangers do? In W. Ickes (Ed.), *Empathic Accuracy* (pp. 169-193). New York: Guilford Press.
- Cooper, M., O'Hara, M., Schmid, P., & Wyatt, G. (Eds.). (2007). *The handbook of person-centred psychotherapy and counselling*. London: Palgrave Macmillan.
- Corradini, A., & Antonetti, A. (2013). Mirror neurons and their function in cognitively understood empathy. *Consciousness and Cognition*, 22, 1152-1161.
- Cwik, A. (2011). Associative dreaming: Reverie and active imagination. *The Journal of Analytical Psychology*, 56, 14-36.
- Davis, C. (1990). What is empathy, and can it be taught. *Physical Therapy*, 70, 707-715.
- Davis, M. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of personality and Social Psychology*, 44, 113-126.

- De Waal, F. (2008). Putting the altruism back into altruism: The evolution of empathy. *Annual Review of Psychology*, 59, 279-300.
- Decety, J., & Jackson, P. (2003). The functional architecture of human empathy. *Behavioural and Cognitive Neuroscience Reviews*, 3(2), 71-100.
- Decety, J., & Jackson, P. (2006). A social-neuroscience perspective on empathy. *Current Directions in Psychological Science*, 15, 54-58.
- Decety, J., Chaminade, T., Grezes, J., & Meltzoff, A. (2002). A PET exploration of the neural mechanisms involved in reciprocal imitation. *NeuroImage*, 15, 265-272.
- Dilkina, K., McClelland, J., & Plaut, D. (2008). A single-system account of semantic and lexical deficits in five semantic dementia patients. *Cognitive Neuropsychology*, 25, 136-164.
- Dimberg, U., Thunberg, M., & Elmehed, K. (2000). Unconscious facial reactions to emotional facial expressions. *Psychological Science*, 11, 86-89.
- Duan, C., & Hill, C. (1996). The current state of empathy research. *Journal of Counseling Psychology*, 43, 261-274.
- Dzobek, I., Fleck, S., Kalbe, E., Rogers, K., Hassenstab, J., Brand, M., . . . Convit, A. (2006). Introducing MASC: A Movie for the assessment of social Cognition. *Journal of Autism and Developmental Disorders*, 36, 623-636.
- Eisenberg, N., & Lennon, R. (1983). Sex differences in empathy and related capacities. *Psychological Bulletin*, 94, 100-131.
- Eisenberger, N., & Lieberman, M. (2004). Why rejection hurts: a common neural alarm system for physical and social pain. *Trends in Cognitive Sciences*, 8, 294-300.
- Eisenberger, N., Lieberman, M., & Williams, K. (2003). Does rejection hurt? Study of social exclusion. *Science*, 302, 290-292.
- Ekman, P. (1994). Strong evidence for universals in facial expressions: A reply to Russell's mistaken critique. *Psychological Bulletin*, 115, 268-287.
- Ekman, P. (2003a). Darwin, deception, and facial expressions. *Annals of the New York Academy of Sciences*, 1000, 205-221.
- Ekman, P. (2003b). *Emotions Revealed*. London: Orion Books Ltd.
- Ekman, P. (2009, March 26). *Becoming versed in reading faces*. Retrieved from Entrepreneur: <http://www.entrepreneur.com/article/200934>
- Ekman, P., & Friesen, W. (1969a). Nonverbal leakage and cues to deception. *Psychiatry*, 32, 88-106.
- Ekman, P., & Friesen, W. (1969b). The repertoire of nonverbal behavior: Categories, origins, usage, and coding. *Semiotica*, 1, 49-98.
- Ekman, P., & Friesen, W. (1971). Constants Across Cultures in the Face and Emotion. *Journal of Personality and Social Psychology*, 17, 124-129.
- Ekman, P., & Friesen, W. (2003). *Unmasking the face*. Cambridge (MA): Malor Books.

- Elfendein, H., & Ambady, N. (2003). Universals and cultural differences in recognizing emotions. *Current Directions in Psychological Science*, 12, 159-164.
- Elliott, R., Bohart, A., Watson, J., & Greenberg, L. (2011). Empathy. *Psychotherapy*, 48, 43-55.
- Elliott, R., Watson, J., Goldman, R., & Greenberg, L. (2003). *Learning emotion focused therapy: The process-experiential approach to change*. Washington: American Psychological Association.
- Epstein, M. (1984). On the neglect of evenly suspended attention. *Journal of Transpersonal Psychology*, 16, 193-206.
- Eysenck, M., & Keane, M. (2005). *Cognitive Psychology*. Hove: Psychology Press.
- Fitzgibbon, B., Guimmarra, M., Georgiou-Karistianis, N., Enticott, P., & Bradshaw, J. (2010). Shared pain: from empathy to synaesthesia. *Neuroscience and Biobehavioral Reviews*, 34, 500-512.
- Freire, E. (2007). Empathy. In M. Cooper, M. O'Hara, P. Schmid, & G. Wyatt (Eds.), *The Handbook of Person-Centred Psychotherapy and Counselling* (pp. 194-206). Basingstoke: Palgrave Macmillan.
- Frith, C., & Frith, U. (2005). Theory of mind. *Current Biology*, 15, 644-646.
- Gallese, V. (2001). The "shared manifold" hypothesis: From mirror neurons to empathy. *Journal of consciousness studies*, 8, 33-50.
- Gallese, V. (2003). The roots of empathy: The shared manifold hypothesis and the neural basis of intersubjectivity. *Psychopathology*, 36, 171-180.
- Gallese, V., & Goldman, A. (1998). Mirror neurons and the simulation theory of mind-reading. *Trends in Cognitive Science*, 2, 493-501.
- Gallese, V., Eagle, M., & Migone, P. (2007). Intentional attunement: Mirror neurons and the neural underpinnings of interpersonal relations. *Journal American Psychoanalytic Association*, 55, 131-176.
- Geller, S., & Greenberg, L. (2002). Therapeutic Presence: Therapists' experience of presence in the psychotherapy encounter. *Person-Centered & Experiential Psychotherapies*, 1, 71-86.
- Gergen, K. (2009). *An Invitation to Social Construction* (Second ed.). London: SAGE Publications Ltd.
- Germine, L., Duchaine, B., & Nakayama, K. (2010). Where cognitive development and ageing meet: Face learning ability peaks after 30. *Cognition*, 118, 201-210.
- Gery, I., Miljkovitch, R., Berthoz, S., & Soussignan, R. (2009). Empathy and recognition of facial expressions of emotion in sex offenders, non-sex offenders and normal controls. *Psychiatry Research*, 165, 252-262.
- Golan, O., & Baron-Cohen, S. (2006). Systematizing empathy: Teaching adults with Asperger syndrome or high-functioning autism to recognize complex emotions using interactive multimedia. *Development and Psychopathology*, 18, 591-617.



- Goldberg, A. (2011). The enduring presence of Heinz Kohut: Empathy and its vicissitudes. *Journal of the American Psychoanalytic Association*, 59, 289-312.
- Gonzalez-Liecras, C., Shamay-Tsoory, S., & Brun, M. (2013). Towards a neuroscience of empathy: Ontogeny, phylogeny, brain mechanisms, context and psychopathology. *Neuroscience and Biobehavioural Reviews*, 37, 1537-1548.
- Guttman, H., & Laporte, L. (2002). Alexithymia, empathy, and psychological symptoms in a family context. *Comprehensive Psychiatry*, 43, 448-455.
- Haggard, E., & Isaacs, K. (1966). Micromomentary facial expressions as indicators of ego mechanisms in psychotherapy. *Methods of Research in Psychotherapy*, 154-165 .
- Haladyna, T., & Downing, S. (1989). A taxonomy of multiple-choice item-writing rules. *Applied Measurement in Education*, 2, 37-50.
- Haladyna, T., & Downing, S. (1989). Validity of taxonomy of multiple-choice item-writing rules. *Applied Measurement in Education*, 2, 51-78.
- Haladyna, T., Downing, S., & Rodriguez, M. (2002). A review of multiple-choice item-writing guidelines for classroom assessment. *Applied Measurement in Education*, 309-334.
- Harris, M., & Butterworth, G. (2002). *Developmental psychology*. Hove: Psychology Press.
- Hassenstab, J., Dziobek, I., Rogers, K., Wolf, T., & Convit, A. (2007). Knowing what others know, feeling what others feel: A controlled study of empathy in psychotherapists. *Journal of Nervous and Mental Disease*, 195, 277-281.
- Hatfield, E., Rapson, R., & Le, Y. (2009). Emotional contagion and empathy. In J. Decety, & W. Ickes (Eds.), *The social neuroscience of empathy* (pp. 19-30). Cambridge (MA): The MIT Press.
- Henson, R. (2005). What can functional neuroimaging tell the experimental psychologist? *The Quarterly Journal of Experimental Psychology*, 58A, 193–233.
- Henson, R. (2006). What has neuropsychology told us about the mind (so far)? A reply to Coltheart (2006). *Cortex*, 42, 387-392.
- Hepburn, A., & Jackson, C. (2009). Rethinking subjectivity: A discursive psychological approach to cognition and emotion. In D. Fox, I. Prilleltensky, & S. Austin (Eds.), *Critical psychology: An introduction* (pp. 176-194). London: SAGE.
- Hess, U., & Blairy, S. (2001). Facial mimicry and emotional contagion to dynamic emotional facial expressions and their influence on decoding accuracy. *International Journal of Psychophysiology*, 40, 129-141.
- Hess, U., & Kleck, R. (1997). Differentiating emotion elicited and deliberate emotional facial expressions. In P. Ekman, & E. Rosenberg (Eds.), *What the face reveals: Basic and applied studies of spontaneous expression using the facial action coding system (FACS)* (pp. 271-286). Oxford: Oxford University Press.
- Hoffman, M. (1975). Developmental synthesis of affect and cognition and its implications for altruistic motivation. *Developmental Psychology*, 11, 607-622.
- Hojat, M., Mangione, S., Nasca, T., Rattner, S., Erdmann, J., Gonnella, J., & Magee, M. (2004). An empirical study of decline in empathy in medical school. *Medical Education*, 38, 934-941.

- Hojat, M., Vergare, M., Maxwell, K., Brainard, G., Isenberg, S., Herrine, S., . . . Gonella, J. (2009). The devil is in the third year: a longitudinal study of erosion of empathy in medical school. *Academic Medicine, 84*, 1182-1191.
- Hollander, E., Bartz, J., Chaplin, W., Phillips, A., Sumner, J., Soorya, L., . . . Wasserman, S. (2007). Oxytocin increases retention of social cognition in autism. *Biological Psychiatry, 61*, 498–503.
- Howe, D., Brandon, M., Hinings, D., & Schofield, G. (1999). *Attachment theory, child maltreatment and family support*. Basingstoke: Palgrave Macmillan.
- Hurlemann, R., Patin, A., Onur, O., Cohen, M., Baumgartner, T., Metzler, S., . . . Kendrick, K. (2010). Oxytocin enhances amygdala-dependent, socially reinforced learning and emotional empathy in humans. *The Journal of Neuroscience, 30*, 4999–5007.
- Hurley, C. (2012). Do you see what I see? Learning to detect micro expressions of emotion. *Motivation & Emotion, 36*, 371-381.
- Iacoboni, M., Woods, R., Brass, M., Bekkering, H., Mazziotta, J., & Rizzolatti, G. (1999). Cortical mechanisms of human imitation. *Science, 286*, 2526-2528.
- Iacoboni, M. (2009). Imitation, empathy, and mirror neurons. *Annual Review of Psychology, 60*, 653-670.
- Ickes, W. (1993). Empathic accuracy. *Journal of Personality, 60*(4), 587-610.
- Ickes, W. (Ed.). (1997). *Empathic Accuracy*. New York: Guilford Press.
- Ickes, W. (2001). Measuring empathic accuracy. In J. Hall, & F. Bernieri (Eds.), *Interpersonal sensitivity: Theory and measurement* (pp. 219-241). Mahwah: Erlbaum.
- Ickes, W. (2003). *Everyday Mind Reading: Understanding What Other People Think and Feel*. New York: Prometheus Books .
- Ickes, W. (2009). Empathic accuracy: Its links to clinical, cognitive, developmental, social, and physiological psychology. In J. Decety, & W. Ickes (Eds.), *The social neuroscience of empathy* (pp. 57-70). Cambridge (MA): The MIT Press.
- Ickes, W., Maragoni, C., & Garcia, S. (1997). Studying empathic accuracy in a clinically relevant context. In W. Ickes (Ed.), *Empathic Accuracy* (pp. 282-310). New York: Guilford Press.
- Ickes, W., Stinson, L., Bissonnette, V., & Garcia, S. (1990). Naturalistic social cognition: Empathic accuracy in mixed sex dyads. *Journal of Personality and Social Psychology, 59*(4), 730-742.
- Jackson, P., Meltzoff, A., & Decety, J. (2005). How do we perceive the pain of others? A window into the neural processes involved in empathy. *NeuroImage, 24*, 771– 779.
- Jackson, P., Rainville, P., & Decety, J. (2006). To what extent do we share the pain of others? Insight from the neural bases of pain empathy. *Pain, 125*, 5-9.
- Jahoda, G. (2005). Theodor Lipps and the shift from "sympathy" to "empathy". *Journal of the History of the Behavioural Sciences, 41*, 151-163.

- Johnson, J., Simmons, C., Jordan, A., MacLean, L., Taddei, J., Thomas, D., . . . Reed, W. (2002). Rodney King and O. J. revisited: the impact of race and defendant empathy induction on judicial decisions. *Journal of Applied Social Psychology*, 32, 1208-1223.
- Keefe, F., Lipkus, I., Lefebvre, J., Hurwitz, H., Clipp, E., Smith, J., & Porter, L. (2003). The social context of gastrointestinal cancer pain: a preliminary study examining the relation of patient pain catastrophizing to patient perceptions of social support and caregiver stress and negative responses. *Pain*, 103, 151-156.
- Keltner, D. (1997). Signs of appeasement: Evidence for the distinct displays of embarrassment, amusement and shame. In P. Ekman, & E. Rosenberg (Eds.), *What the face reveals: Basic and applied studies of spontaneous expression using the facial action coding system (FACS)* (pp. 133-157). Oxford: Oxford University Press.
- Kohler, E., Keysers, C., Umiltà, A., Fogassi, L., Gallese, V., & Rizzolatti, G. (2002). Hearing sounds, understanding actions: Action representation in mirror neurons. *Science*, 297, 846-848.
- Kohut, H. (1959). Introspection, empathy, and psychoanalysis: An examination of the relationship between mode of observation and theory. *Journal of the American Psychoanalytic Association*, 7, 459-483.
- Kohut, H. (1982). Introspection, empathy, and the semi-circle of mental health. *The International Journal of Psychoanalysis*, 63, 395-407.
- Kohut, H. (1984). *How does analysis cure?* London: University of Chicago Press Ltd.
- Kong, E., & Edwards, J. (2011). Individual differences in speech perception: Evidence from visual analogue scaling and eye-tracking. *International Congress of Phonetic Sciences* (pp. 1-4). Hong Kong: The Permanent Council for the Organization of the International Congresses of Phonetic Sciences.
- Krause, R., & Merten, J. (1999). Affects, regulation of relationship, transference and countertransference. *International Forum of Psychoanalysis*, 8, 103-114.
- Lakin, J., & Chartrand, T. (2003). Using nonconscious behavioural mimicry to create affiliation and rapport. *Psychological Science*, 14, 334-339.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: The University of Chicago Press.
- Lamm, C., Batson, D., & Decety, J. (2007). The neural substrate for human empathy: Effects of perspective-taking and cognitive appraisal. *Journal of Cognitive Neuroscience*, 19, 42-58.
- Lawrence, E., Shaw, P., Baker, D., Baron-Cohen, S., & David, A. (2004). Measuring empathy: Reliability and validity of the empathy quotient. *Psychological Medicine*, 34, 911-924.
- Lawrence, E., Shaw, P., Baker, D., Baron-Cohen, S., & David, S. (2004). Measuring empathy: Reliability and validity of the empathy quotient. *Psychological Medicine*, 34, 911-924.
- Lemma, A. (2003). *Introduction to the Practice of Psychoanalytic Psychotherapy: A Practical Treatment Handbook*. Chichester: John Wiley & Sons Ltd.
- Levenson, R., & Ruef, A. (1992). Empathy: A physiological substrate. *Journal of Personality and Social Psychology*, 63, 234-246.

- Leys, C., Ley, C., Klein, O., Bernard, P., & Licata, L. (2013). Leys, C., Ley, C., Klein, O., Bernard, P., & Licata, L. (2013). Detecting outliers: do not use standard deviation around the mean, use absolute deviation around the median. *Journal of Experimental Psychology*, 49, 764-766.
- Lieberman, M., Berkman, E., & Wager, T. (2009). Correlations in social neuroscience aren't voodoo: commentary on Vul et al. (2009). *Perspectives on Psychological Science*, 4, 299-307.
- Light, L., Prull, M., LaVoie, D., & Healy, M. (2000). Dual-process theories of memory in old age. In T. Perfect, & A. Maylor (Eds.), *Models of cognitive aging* (pp. 238-300). Oxford: Oxford University Press.
- MacDonald, G., & Leary, M. (2005). Why does social exclusion hurt? The relationship between social and physical pain. *Psychological Bulletin*, 131, 202-223.
- MacDonald, G., & Shaw, S. (2005). Adding Insult to Injury: Social Pain Theory and Response to Social Exclusion. In K. Williams, J. Forgas, & W. von Hippel, *The social outcast: Ostracism, social exclusion, rejection, & bullying*. New York: Psychology Press.
- Mar, R., Oatley, K., Hirsh, J., de la Paz, J., & Peterson, J. (2006). Bookworms versus nerds: Exposure to fiction versus non-fiction, divergent associations with social ability, and the simulation of fictional social worlds. *Journal of Research in Personality*, 40, 694-712.
- Master, S., Eisenberger, N., Taylor, S., Naliboff, B., Shirinyan, D., & Lieberman, M. (2009). A picture's worth, partner photographs reduce experimentally induced pain. *Psychological science*, 20, 1316-1318.
- Matsumoto, D., & Sung Hwang, H. (2011). Evidence for training the ability to read microexpressions of emotion. *Motivation and Emotion*, 35, 181-191.
- Maurer, R., & Tindall, J. (1983). Effect of postural congruence on client's perception of counselor empathy. *Journal of Counselling Psychology*, 30, 158-163.
- Mauss, I., Levenson, R., McCarter, L., Wilhelm, F., & Gross, J. (2005). The ties that binds? Coherence among emotion experience, behavior, and physiology. *Emotion*, 5, 175-190.
- Mayr, E. (1961). Cause and effect in biology. *Science*, 134, 1501-1506.
- McClelland, J. (2006). How far can you go with Hebbian learning, and when does it lead you astray. In Y. Munakata, & M. Johnson (Eds.), *Processes of change in brain and cognitive development: Attention and performance* (pp. 33-69). Oxford: Oxford University Press.
- McMahon, S., & Koltzenburg, M. (Eds.). (2005). *Wall and Melzacks Textbook of Pain* (5th ed.). London: Churchill Livingstone.
- Mearns, D., & Cooper, M. (2005). *Working at relational depth in counselling and psychotherapy*. London: Sage Publications.
- Mearns, D., & Thorne, B. (2007). *Person-Centred Counselling in Action* (3rd Edition ed.). London: SAGE.
- Meltzoff, A., & Decety, J. (2003). What imitation tells us about social cognition: A rapprochement between developmental psychology and cognitive neuroscience. *Philosophical Transactions of the Royal Society*, 358, 491-500.

- Meltzoff, A., & Moore, M. (1983). Newborn infants imitation adult facial gestures. *Child Development*, 54, 702-709.
- Melzak, R., & Wall, P. (1965). Pain Mechanisms: A New Theory. *Science*, 150, 971 - 979.
- Merten, J. (2005). Facial microbehavior and the emotional quality of the therapeutic relationship. *Psychotherapy Research*, 15, 325-333.
- Merten, J., Anstadt, T., Ullrich, B., Krause, R., & Buchheim, P. (1996). Emotional experience and facial behavior during the psychotherapeutic process and its relation to treatment outcome: A pilot study. *Psychotherapy Research*, 6, 198-212.
- Miall, R. (2003). Connecting mirror neurons and forward models. *NeuroReport*, 14, 2135-2137.
- Miller, C. (1981). Getting closer to the ground: Drug abuse and grounding. In A. Schecter (Ed.), *Drug dependence and alcoholism* (pp. 505-507). London: Springer.
- Moriguchi, Y., Decety, J., Ohnishi, T., Maeda, M., Mori, T., Nemoto, K., . . . Komaki, G. (2007). Empathy and judging other's pain: an fMRI study of alexithymia. *Cerebral Cortex*, 17, 2223--2234.
- Navarro, J., & Karlines, M. (2008). *What every body is saying*. New York: Harper Collins.
- Nemiah, J. (1996). Alexithymia: present, past—and future? *Psychosomatic Medicine*, 58, 217-218.
- Neumann, M., Edelhauser, F., Tauschel, D., Fischer, M., Wirtz, M., Woopen, C., . . . Scheffer, C. (2011). Neumann, M., Edelhäuser, F., Tauschel, D., Fischer, M. R., Wirtz, M., Woopen, C., ... & Scheffer, C. (2011). Empathy decline and its reasons: a systematic review of studies with medical students and residents. *Academic Medicine*, 86, 996-1009.
- Nietzsche, F. (1883/4). *Thus spoke zarathustra*. (R. Hollingdale, Trans.) London 2003: Penguin.
- Norcross, J. (2009). Preface. In J. Norcross (Ed.), *Psychotherapy relationships that work: Evidence based responsiveness* (pp. 1-3). New York: Oxford University Press.
- Norcross, J., & Lambert, M. (2009). Evidence based therapy relationships. In J. Norcross (Ed.), *Psychotherapy relationships that work: Evidence based responsiveness* (pp. 2-24). New York: Oxford University Press.
- Norcross, J., & Wampold, B. (2009). Evidence-based therapy relationships: Research conclusions and clinical practices. In J. Norcross (Ed.), *Psychotherapy relationships that work: Evidence based responsiveness* (pp. 423-430). New York: Oxford University Press.
- Pellegrino, G., Fadiga, L., Fogassi, L., Gallese, V., & Rizzolatti, G. (1992). Understanding motor events: A neurophysiological study. *Experimental Brain Research*, 91, 176-180.
- Porter, S., & ten Brinke, L. (2010). The truth about lies: What works in detecting high-stakes deception. *Legal and Criminological Psychology*, 15, 57-75.
- Porter, S., Bhanwer, A., Woodworth, M., & Black, P. (2013). Soldiers of misfortune: An examination of the dark triad and the experience of schadenfreude. *Personality and Individual Difference*, 67, 64-68.
- Porter, S., Juodis, M., ten Brinke, L., Klien, R., & Wilson, K. (2010). Evaluation of a brief deception detection training program. *The Journal of Forensic Psychiatry & Psychology*, 21, 66-76.

- Porter, S., Woodworth, M., & Birt, A. (2000). Truth, lies, and videotape: an investigation of the ability of federal parole officers to detect deception. *Law and Human Behavior*, 24, 643-658.
- Preston, S., & De Waal, F. (2002). Empathy: Its ultimate and proximate bases. *Behavioral and Brain Sciences*, 25, 1-72.
- Preston, S., & De Waal, F. (2002). Empathy: Its ultimate and proximate bases. *Behavioral and Brain Sciences*, 25, 1-72.
- Radenovic, L. (2011). The roots of empathy: A lesson from psychoanalysis. *Procedia - Social and Behavioral Sciences*, 30, 485-490.
- Regenbogen, C., & Habel, U. (2015). Facial Expressions in Empathy Research. In M. Mandal, & A. Awasthi (Eds.), *Understanding facial expressions in communication: Cross-cultural and multidisciplinary perspectives* (pp. 101-117). New Delhi: Springer India.
- Regenbogen, C., Schneider, D., Finkelmeyer, A., Kohn, N., Derntl, B., Kellermann, T., . . . Habel, U. (2012). The differential contribution of facial expressions, prosody, and speech content to empathy. *Cognition and Emotion*, 26, 995-1014.
- Reniers, R., Corcoran, R., Drake, R., Shryane, N., & Vollm, B. (2011). The QCAE: A questionnaire of cognitive and affective empathy. *Journal of Personality Assessment*, 93, 84-95.
- Riess, H., Kelley, J., Bailey, R., Dunn, E., & Phillips, M. (2012). Empathy training for resident physicians: a randomized controlled trial of a neuroscience-informed curriculum. *Journal of General Internal Medicine*, 27, 1280-1286.
- Roeyers, H., Buysse, A., Ponnet, K., & Pichal, B. (2001). Advancing advanced mind-reading tests: Empathic accuracy in adults with a pervasive developmental disorder. *Journal of Child Psychology and Psychiatry*, 42, 271-278.
- Rogers, C. (1956). The Necessary and Sufficient Conditions of Therapeutic Personality Change. *Journal of Consulting Psychology*, 21, 95-103.
- Rogers, C. (1961). *On Becoming a Person: A Therapists View of Psychotherapy*. London: Constable.
- Rogers, C. (1975). Empathic: An unappreciated way of being. *The Counseling Psychologist*, 5, 2-11.
- Rothschild, B. (2000). *The Body Remembers: The Psychophysiology of Trauma and Trauma Treatment*. New York: W. W. Norton & Company.
- Rushworth, M., Buckley, M., Behrens, T., Walton, M., & Bannerman, D. (2007). Functional organisation of the medial frontal cortex. *Current Opinion in Neurobiology*, 17, 220-227.
- Rushworth, M., Walton, M., Kennerley, S., & Bannerman, D. (2004). Action sets and decisions in the medial frontal cortex. *Trends in Cognitive Sciences*, 410-417.
- Russell, B. (1975b). The triumph of stupidity. In B. Russell, *Mortals and others: American essays 1931-1935* (pp. 203-204). London: Routledge.
- Russell, J. (1994). Is There Universal Recognition of Emotion From Facial Expression? A Review of the Cross-Cultural Studies. *Psychological Bulletin*, 115, 102-141.

- Sexton, L. (1999). Vicarious traumatising of counsellors and effects on their workplaces. *British Journal of Guidance and Counselling*, 27, 393-403.
- Simner, J., Mulvenna, C., Sagiv, N., Tsakanikos, E., Witherby, S., Fraser, C., . . . Ward, J. (2006). Synaesthesia: the prevalence of atypical cross-modal experiences. *Perception*, 35, 1024-1033.
- Singer, T., Seymour, B., O'Doherty, J., Kaube, H., Dolan, R., & Frith, C. (2004). Empathy for pain involves the affective but not sensory components of pain. *Science*, 303, 1157-1162.
- Singer, T., Seymour, B., O'Doherty, J., Klaas, S., Dolan, R., & Frith, C. (2006). Empathic neural responses are modulated by the perceived fairness of others. *Nature*, 439, 466-469.
- Skevington, S. (1995). *Psychology of Pain*. Oxford: John Wiley & Sons.
- Smith, K., Keating, J., & Stotland, E. (1989). The effect of denying feedback on a victim's status to empathic witnesses. *Journal of Personality and Social Psychology*, 57, 641-650.
- Stangor, C. (2007). *Research Methods for the Behavioral Sciences*. Boston: Houghton Mifflin.
- Stein, E. (1917/1986). *On the problem of empathy*. Washington D.C.: ICS Publications.
- Steiner, J. (1994). Patient-centered and analyst-centered interpretations: Some implications of containment and countertransference. *Psychoanalytic Inquiry: A Topical Journal for Mental Health Professionals*, 14, 406-422.
- Stolorow, R., Atwood, G., & Orange, D. (2002). *Worlds of experience: Interweaving Philosophical and clinical dimensions in psychoanalysis*. New York: Basic Books.
- Stuber, K. (2006). *Rediscovering empathy: Agency, folk psychology and the human sciences*. Cambridge (Massachusetts): MIT Press.
- ten Brinke, L., & Porter, S. (2013). Discovering deceit: Applying laboratory and field research in the search for truthful and deceptive behavior. In B. Cooper, D. Griesel, & M. Ternes (Eds.), *Applied issues in investigative interviewing, eyewitness memory, and credibility assessment* (pp. 221-237). New York: Springer.
- ten Brinke, L., MacDonald, S., Porter, S., & O'Connor, B. (2012). Crocodile tears: Facial, verbal and body language behaviours associated with genuine and fabricated remorse. *Law and Human Behavior*, 36, 51-59.
- Thwaites, R., & Bennett-Levy, J. (2007). Conceptualizing empathy in cognitive behaviour therapy: Making the implicit explicit. *Behavioural and Cognitive Psychotherapy*, 35, 591-612.
- Trippany, R., White Kress, V., & Wilcoxon, S. (2004). Preventing vicarious trauma: What counselors should know when working with trauma survivors. *Journal of Counseling and Development*, 82, 31-37.
- Vachon-Presseau, E., Roy, M., Martel, M., Albouy, G., Chen, J., Budell, L., . . . Rainville, P. (2012). Neural processing of sensory and emotional-communicative information associated with the perception of vicarious pain. *NeuroImage*, 63, 54-62.
- van Baaren, R., Holland, R., Steenaert, B., & Knippenberg, A. (2003). Mimicry for money: Behavioral consequences of imitation. *Journal of Experimental Social Psychology*, 39, 393-398.

- Vul, E., Winkielman, P., & Pashler, H. (2009). Puzzlingly high correlations in fMRI studies of emotion, personality, and social cognition. *Perspective on Psychological Science*, 4, 274-290.
- Waytz, A., & Mitchell, J. (2011). Two mechanisms for simulating others minds: Dissociation between mirroring and self-projection. *Current directions in psychological science*, 20, 197-200.
- Wilkins, P. (2003). *Person-Centred Therapy in Focus*. London: Sage.
- Williams, J., Nicholson, A., Clephan, K., de Grauw, H., & Perrett, D. (2013). A novel method testing the ability to imitate composite emotional expressions reveals an association with empathy. *PLOS one*, 8(4), e61941.
- Wynn, R., & Wynn, M. (2006). Empathy as an interactionally achieved phenomenon in psychotherapy characteristics of some conversational resources. *Journal of Pragmatic*, 38, 1385-1397.
- Xu, X., Zuo, X., Wang, X., & Han, S. (2009). Do you feel my pain? racial group membership modulates empathic neural responses. *The Journal of Neuroscience*, 29, 8525– 8529.



## **Ethics Committee Approval**

**The research for this project was submitted for ethics consideration under the reference PSYC 14/ 137 in the Department of Psychology and was approved under the procedures of the University of Roehampton's Ethics Committee on 11.11.14.**